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PROCEDURES FOR IDENTIFYING PERSONS WITH POTENTIAL FOR PUBLIC SCHOOL ADMINISTRATIVE POSITIONS.
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*IDENTIFICATION, ABILITY IDENTIFICATION, INDIVIDUAL CHARACTERISTICS,
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*QUALIFICATIONS, SUPERINTENDENTS, PRINCIPALS,
*PREDICTIVE MEASUREMENT, BERKELEY, CALIFORNIA

INFORMATION WAS DEVELOPED ON THE INDIVIDUAL TRAITS OF PUBLIC SCHOOL ADMINISTRATORS (SPECIFICALLY SUPERINTENDENTS AND PRINCIPALS), THE DIMENSIONS OF SOCIAL SETTINGS SURROUNDING THEIR ACTIVITIES, AND CRITERIA OF ADMINISTRATIVE EFFECTIVENESS FOR THE PURPOSE OF COMBINING MEASURES OF THESE VARIABLES IN SUCH A WAY AS TO PREDICT ADMINISTRATIVE SUCCESS. THIS STUDY FOLLOWED AN EARLIER COOPERATIVE RESEARCH PROJECT (677) IDENTIFIED AS THE PILOT STUDY. BOTH STUDIES WERE CONDUCTED TO DEVELOP BETTER PROCEDURES THAN THOSE AVAILABLE FOR IDENTIFYING PERSONS WHO HAVE THE POTENTIAL CHARACTERISTICS AND ABILITIES NEEDED TO SERVE EFFECTIVELY IN ADMINISTRATIVE POSITIONS OF PUBLIC SCHOOLS. DATA FOR BOTH STUDIES WERE OBTAINED FROM OVER 7,000 PERSONS (ALMOST 5,850 IN THE LATER PROJECT) IN SCHOOL DISTRICTS THROUGHOUT THE STATE OF CALIFORNIA BY MEANS OF QUESTIONNAIRES AND INTERVIEWS AND FROM PREVIOUS WORK IN THE SUBJECT FIELD. THE LARGE SAMPLE OF PERSONS USED INCLUDED SCHOOL BOARD MEMBERS, SUPERINTENDENTS, PRINCIPALS, OTHER SCHOOL STAFF MEMBERS, TEACHERS, AND PARENTS. THE HYPOTHESIS OF THE STUDY WAS THAT THE PREDICTABILITY OF ADMINISTRATIVE EFFECTIVENESS FROM INDIVIDUAL MEASURES IS ENHANCED SIGNIFICANTLY BY CONSIDERATIONS OF THE TYPE OF DISTRICTS IN WHICH AN ADMINISTRATOR WORKS. ACKNOWLEDGING CERTAIN SHORTCOMINGS DISCUSSED IN THE STUDY, THIS HYPOTHESIS WAS STRONGLY CONFIRMED. SUCCESSFUL ADMINISTRATORS SHOWED DIFFERENT CHARACTERISTIC IN DIFFERENT TYPES OF DISTRICTS OFTEN CONSISTENT WITH STEREOTYPES. FOR EXAMPLE, SOME ADMINISTRATORS REFLECTED THE PROVINCIALISM AND CONSERVATION OF A SMALL SCHOOL DISTRICT, OTHERS, THE MORE SOPHISTICATED ATTITUDES IN A SUBURBAN DISTRICT. VIRTUALLY ALL OF THE MEASURES DERIVED THEORETICALLY PROVED TO BE EMPIRICALLY POWERFUL PREDICTORS OF ADMINISTRATIVE SUCCESS. (JH)

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PROCEDURES FOR IDENTIFYING PERSONS WITH POTENTIAL FOR PUBLIC SCHOOL ADMINISTRATIVE POSITIONS

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University of California, Berkeley)

Cooperative Research Project No. 1076

LEADERS OF SCHOOLS

by

William C. Schutz

January, 1966

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PREFACE

The history of this project began with a research project entitled Procedures for Identifying Persons with Potential for Public School Administrative Positions by Edgar L. Morphet, Principal Investigator and William C. Schutz, Research Director, submitted to the U. S. Office of Education through the University of California, Berkeley, in 1959. The contract for a pilot study to be completed in approximately 16 months (Project No. 677, O. E. Contract #SAE-8419) became effective September 8, 1959. The following excerpts from the proposal give some of the basic concepts used in the study.

> The study is concerned with a systematic attempt to develop better procedures than are now available for identifying persons who have the potential characteristics and abilities needed to serve effectively in administrative positions in public schools...
>
> ...The initial phases of the project involve intensive study of a small sample and will be done locally. As the research develops we plan to expand geographically and do our most comprehensive work on educational administrators in California since they are available and we have the advantage of being able to keep in constant personal contact with them to help guide the development of our more objective measuring instruments...
>
> ...In brief, the primary purpose of the present study is to use the findings of the questionnaires and interviews in two communities, along with those of previous studies and the theoretical approach, to devise, try out and tentatively evaluate an initial battery of measures for assessing presently functioning administrators. It is hoped that this study will pave the way for a much needed and more comprehensive study that would include the procedures briefly explained below.

The pilot study proceeded satisfactorily. Following approval by the boards and superintendents involved, personnel from the following four California school districts participated in this phase of the project: Chula Vista in the San Diego area, Huntington Beach in the Los Angeles area, and Berkeley and Laguna Salada in the San Francisco area. Extensive data were obtained from 1,327 people including board members, superintendents, principals and other staff members, teachers and parents in those districts. Professors Marvin Platz and William Wetherill of San Diego State College, Willard Van Dyke of Long Beach State College, and Aubrey Haan and George Hallowitz of San Francisco State College administered the test instruments and interviewed participating personnel in their respective areas. A mimeographed report (192 pages) covering the procedures and findings of this pilot project was completed early in 1961 (Schutz 1961).

By March 28, 1960 enough progress had been made on the pilot project to submit a supplementary proposal for the more comprehensive study to the U. S. Office of Education. This proposal was approved and the new contract for the extended study was executed August 31, 1960 (Project 1076, O. E. Contract #SAE-9030).

The original research director was able to serve for the duration of the study. However, for the final year of the project, Frank Farner of the University of California, Berkeley replaced Edgar Morphet as principal investigator.

The plan for this phase of the study was to obtain data from pertinent school personnel in a representative sample of schools and school districts in the State of California other than the four that participated in the Pilot Study. Fortunately, a related project described below facilitated the process of obtaining cooperation from most of the districts selected in the sample. Data for this aspect of the study were obtained from 5,847 people in the participating districts. These data were analyzed, related when appropriate to information from other studies and the findings and conclusions presented in this report.

For a decade before the proposal for the Pilot Study was developed, an organization known as the California Commission on Public School Administration had been concerned with studies and policies designed to improve the provisions and procedures for organizing and administering the public schools of the State. In 1958 the commission, comprised of representatives of major California educational organizations and institutions of higher learning agreed that: 1) planned cooperative effort should be more significant and meaningful than isolated efforts by different groups and instutions, 2) proposals for improvements should be based on research findings rather than on customary procedures or on opinions of people who were concerned, and 3) considerable attention should be given to innovation as a means of improving practices in institutions and in the field.

As one important means of implementing these concepts, a proposal for a major project entitled The Improvement of Educational Administration in California was approved by the Commission. (The Commission incorporated itself as "The California Committee on Public School Administration" in order to be in position to accept funds under California law and sponsor this project.) The project proposal was submitted to the Rosenberg Foundation of San Francisco. In January of 1959 this Foundation approved the proposal for the first year. Subsequently a great was made for the second and third years, a period ending June 30, 1962.

The project staff was located at the University of California, Berkeley. The principal investigator (Edgar L. Morphet) for the research study discussed above, was named the coordinator for the California Commission project. For the first few months, the research director (William C. Schutz) was able to begin work on the detailed plans for the research study before the grant for the study was actually authorized. Thus, the two projects were closely related in many ways and each made many contributions to the other. The Commission, therefore, encouraged and facilitated in many ways the basic research study discussed above, and also stimulated and helped to finance a series of related studies.

In addition to supporting the central research project, the Commission decided to use the funds from its grant to: 1) sponsor work-conferences to provide further opportunity for exchanging information and points of view, facilitating research and upgrading programs of preparation, 2) encourage and assist participating institutions to develop and carry out related research studies, 3) improve the ability to use research studies and findings as a major factor in programs of preparation and in the practice of administration, 4) try to get agreement on characteristics of satisfactory programs of selection and preparation and on an adequate credential program, 5) involve practicing administrators, school board members, and college and university staff members in cooperative study and discussion of problems of mutual interest, and especially those relating to the implications and implementation of research findings in improving administrative practices, and 6) attempt to get agreement on accreditation standards and procedures in relationship to programs of preparation for various aspects of educational administration.

The first work-conference for representatives of participating institutions of higher learning and Commission members was held in San Francisco in May of 1959, soon after the Commission was incorporated and had assumed the responsibility for sponsoring the project and administering the funds. About [illegible] persons attended, including representatives of most accredited institutions. Most of the time was devoted to discussing problems and planning for the future.

The Commission paid the expense of one representative of each accredited college and university and encouraged others to attend at institutional or at their own expense. From 50 to 60 persons attended each work-conference. Not only were all California institutions represented, but also the University of Nevada. Six additional two-day work-conferences were held, one during the fall semester and another during the spring semester of each year. The aims of the conferences were to:

1) report developments in the various stages of the central research project,
2) plan and analyze replication studies conducted by three of the state colleges,
3) plan and analyze related research proposals by a number of the participating institutions,
4) assemble information on present programs of preparation and attempt to get agreement on characteristics of satisfactory programs,
5) assemble information on selection procedures and attempt to get agreement on those considered desirable,
6) follow developments in credential proposals and attempt to get agreement on desirable provisions,
7) consider several issues of interest to administrators and college and university staff members.

Related research studies were carried out at San Francisco, Fresno, Los Angeles and San Fernando Valley State Colleges, and at the University of California at Los Angeles. These institutions submitted research proposals [illegible], and were assisted by the central research staff of the present project before actually beginning their projects. In addition, a conference on research design was held in the spring of 1961 for representatives from institutions in the southern part of the state at their request. Approximately fifty people participated in the conference, which was designed to contribute to the understanding of the place and use of research in educational administration. A syllabus on the fundamentals of research design, written by the research director, was distributed to all institutions as an aid in designing and completing research projects and evaluating the results of the studies.

Funds were also obtained through the University of California, Berkeley, from the National Institute of Mental Health (Grant N-3473) for a project entitled "Empirical Tests of a Theory of Interpersonal Relations" that was closely related and contributed substantially to one important aspect of the major research study on "Procedures for Identifying Persons with Potential for Public School Administrative Positions." Since some preliminary work had been done in this area under a previous grant by the research director, and since the two projects were so closely related, it seemed logical that the National Institute of Mental Health study and the personnel assigned to that study should be directed by the staff for the major research study. The grants for testing the theory of interpersonal relations provided support for three years beginning May 28, 1959.

In a study of this scope the cooperation of so many people was required it is difficult to know where to begin the acknowledgements. Perhaps our biggest debt is to the 5,847 people who answered the basic questionnaire and the 1,327 who participated in the pilot study. These board members, administrators, parents, and teachers from over 90 school districts all over California gave their time and energy for a goal that they had to take on faith.

Staten Webster as the associate research director supervised the entire data collection phase. Janet Osborn Dallett set up the project originally and supervised the pilot study. Many research assistants contributed invaluably to various phases of the study including: Nancy Watson, Rolf Kroger, Nirmal Mehra, Robert Feinbaum, Marvin Geller, Vernon Allen, William Riess, Toyo Masa-Fuse, Stella Estes, Judith Vollmar, Frank Monsanto, Frank Darknell, Ann Stockton, Ann Peck, Marilyn Salzman, Carolyn Feinberg, and James Cameron.

At several points we required consultation from specialists. William Madow assisted in the sampling problems; Frank Farner, Hollis Allen, Floyd Taylor and Robert Clemo contributed their extensive knowledge of California education; Elmer Struening and Mendl Hoffman were very helpful in the data analysis; Eleanor Krasnow wrote the computer program for Guttman scaling that was invaluable for developing the many new scales used in the project.

Members of the California Commission on Public School Administration who were central in contacting school districts and collecting data include the following faculty members:

Kenneth Lyon	University of California, Berkeley
John Ross	University of California, Berkeley
Edgar Morphet	University of California, Berkeley
Lawrence Vredevoe	University of California, Los Angeles
John Chilcott	University of California, Santa Barbara
Glenn Durflinger	University of California, Santa Barbara
Rollin Garritty	University of Southern California
Richard Boyce	Stanford University
William McCann	Chico State College
John Sutthoff	Chico State College
Orley Wilcox	Fresno State College
C. K. Leonard	Humboldt State College
Robert Crossan	Long Beach State College
Willard Van Dyke	Long Beach State College
Wayne Young	Long Beach State College

Leroy Bishop	Los Angeles State College
Harold Hall	Los Angeles State College
Ralph Kloepper	Los Angeles State College
Louis Hoover	Los Angeles State College
Marvin Platz	San Diego State College
William Wetherill	San Diego State College
Wayne McIntyre	San Fernando Valley State College
Henry Gunn	San Jose State College
Aubrey Haan	San Francisco State College
George Hallowitz	San Francisco State College
Earl Miller	San Francisco State College
Frank Farner	Claremont Graduate School
Harris Taylor	Claremont Graduate School
Frederick Quinlan	Immaculate Heart College
Frank Bishop	University of Redlands
Rollin Fox	University of Pacific

And to Charlotte Alter who typed and edited the final manuscript and helped in the bibliography and the index, a heart felt thanks.

Without the generous support of the U. S. Office of Education, the National Institute of Mental Health, and the Rosenberg Foundation, the project could not have been executed. Our thanks for their confidence.

In the final stages of the project Dr. Israel Zwerling for the Psychiatry Department of the Albert Einstein College of Medicine very generously gave financial support for the completion of the data analysis.

Finally, a sad note. The chairman of the California Commission on Public School Administration at the onset of this project was Nolan Pulliam, superintendent of schools in Stockton. Dr. Pulliam was a key figure in developing the cooperation so vital to carrying out this study. Unfortunately he died during the course of the study. His inspiration and administrative facility are sorely missed, and in a sense this project is possible partially as a result of his dedication and concern.

Edgar L. Morphet
Berkeley, California
William C. Schutz
New York, New York
September, 1965

INTRODUCTION

This report is about schools and their leaders. How can we choose people who would make good school principals and superintendents? In an important sense they are a key to the problem of quality education and the development of children. While there is no question that teachers are the pivotal figures in the educational picture, it is clear that their efforts can be and often are limited, subverted or even nullified by poor administrators. On the other hand, good administrators can encourage, enhance, and release teachers' potential. As in any organization, the man at the top sets the tone. If the school leader is frightened, uncertain, domineering, incompetent, or irresponsible, the teachers and the school reflect these traits. Educational upgrading must include the improvement of school administration as a primary element.

And yet, vital as the role is, the complexity of the administrative situation makes it difficult to obtain scientific data on which to base the selection and placement of administrators, and the diagnosis of administrative difficulties. How well an administrator fares depends on the criteria for rating him, the people rating him, the kind of district he's in, who's on the school board, the type of students and teachers he has, the state of the economy, who his predecessor was, current trends in child rearing, his appearance, his personal habits, and on and on.

Despite this complexity a study of past research indicated that if the problem were to be treated fully it must be attacked totally. Studies that considered only one facet of the problem seemed unavoidably inadequate. The many major factors operating in administrative success must somehow be encompassed in one study. For example, trying to relate administrators' personality traits only to success seemed to lead nowhere in particular. It did not advance the field much beyond the stage of the individual job descriptions often circulated by a school district looking for an administrator. Usually, anyone having all of the qualities advertised for would be well on his way to sainthood.

Similarly, attempts at treating administrators as relatively replaceable parts by concentrating on the sociological characteristics of the job led to equally empty conclusions. More and more as we read of attempts in this and related fields, such as business and government administration, one thing became clear. All of the major factors must be taken account of at one time -- in one study -- and all of the information must be acquired from the same people. These impressions were reinforced by our experience in the pilot study.

As a result we set out to collect a great deal of personality data on administrators, and sociological data on districts, and tried to think through what it means to be a good administrator. Then these data sources were combined in an attempt to understand the administrative situation and devise an objective method for selecting and placing administrators and diagnosing administrative ills.

In addition to the practical importance of the problem of school leadership, interest in this area derives also from the author's previous work in interpersonal relations. The theory of interpersonal behavior presented in an earlier book (Schutz, W. C., FIRO: A three-dimensional theory of interpersonal behavior, Holt, Rinehart 1958) was used throughout the present study as the theoretical basis for approaching the problem of school administration.

The school administrator is regarded as part of an interactional network and his success is regarded as a function of the way he interacts with teachers, parents, staff, school board members, the community, and the social setting in which he works. The interactional approach determined certain types of conceptions. It eliminated, for example, the possibility of studying only the characteristics of the administrator, but required a knowledge of his interactors as well. It led logically to a classification of the school district in which he operated, since the importance of considering the compatibility between a person and the requirements of his job was anticipated in the previous publication, "For the future it is advantageous to discuss the compatibility of an individual, or a group, and a task situation." (FIRO, p. 161). Introduction of the type of district as a factor in the success of any administrator proved to be a very important step that improved the prediction of administrative effectiveness to a startling degree (see Results).

The present study also affords a further empirical testing of the FIRO theory. several reviews of the earlier book pointed out justifiably that while the theory may be promising it needs further testing. This study along with many others done by different investigators is a contribution to the continuing empirical investigation of the theory.

As this study unfolded it became very clear that new measures were required. Many new scales were developed, nearly all based on the FIRO theory. These scales should be useful for further investigations beyond this study since they measure areas of more general interest, including defense mechanisms, parent-child relations, interpersonal feelings, and educational values. These measures carry further another objective stated in FIRO (p. 225), "The ultimate aim is to have a family of FIRO's covering the entire matrix [of the theory] . These should provide measures adequate to test and expand the present theory."

There are then three major aims of this study:

1) the practical aim of devising a satisfactory method of selecting and placing school administrators, and diagnosing administrative problems.

2) the theoretical objective of extending and testing the FIRO theory of interpersonal behavior and of developing more instruments based on the theory.

3) methodologically to combine psychological and sociological factors on the same subjects to study the interaction among them as it relates to administrative success.

To test the adequacy of our coverage of the variables relevant to successful school administration I thought I would check with someone intimately involved with the school setting in his everyday life. "Caleb," I said, addressing my nine-year-old son, "what do you think it takes to be a good principal?" He eyed me skeptically. "He should be strict but not too strict." (Ah, I thought, our measures should cover that). "He should be understanding and nice and considerate." (Yes, yes, we should be able to estimate that.) "And he should be funny!" (Oh, oh, that we missed.)

Clearly, the steps attained in this study are only the first. Hopefully others can make use of this work to build on and develop toward the end of improving the present state of school leadership, and adding to interpersonal theory. One suggestion we'd make to future investigators. Make sure you find out how funny the administrators are...

Design of the Study

By

William C. Schutz

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Aims

Administration is complex. An administrator needs personal abilities and success in developing others. His effectiveness depends on the people with whom he deals, the type of community surrounding him. Assessment of administrative success is also complex. When can a man be considered successful? When he holds his job? When he just keeps things going? When he makes significant changes?

To understand and predict administrative behavior some answers to these questions are needed. How are personal traits related to administrator performance? How do community differences influence the administrative situation? What is meant by administrative effectiveness?

The present study is concerned with understanding and predicting the behavior of school administrators, specifically superintendents and school principals. At present there is available no completely satisfactory plan for selection and placement of principals and superintendents. Many administrators are selected by local districts on the basis of teaching ability; some are not competent administrators. Likewise, students taking work in educational administration in colleges and universities are to a great extent "self-selected."

A number of studies relating to this problem have been carried out (Graff and Kimbrough, 1956; McIntyre, 1955; Halpin, 1956; Cambell, 1956; Neagley, 1953; Dooher, 1957; Hemphill and Griffiths, 1962; Kellogg Foundation, 1956). For the most part results have been inconclusive and there is little agreement on satisfactory procedures, or even upon characteristics that are important for effective school administration (Hall and McIntyre, 1957). Some studies deal with sociological factors in the community (Bullock, 1959; Delwood, 1959), others with behavior or with personality attributes of the administrator (Guba and Bidwell, 1957). Little, if any of the work done to date has been based upon a systematic, theoretical approach to school administration, nor has it included both psychological and community factors in the same study.

Studies of organizations (for example, March and Simon, 1958; Etzioni, 1961) have focused on the social system perspective of administration. Some of the work derived from the National Training Laboratories' approach (Argyris, 1957; Blake, 1964; Bennis, 1959) attempts to combine interpersonal and organizational variables to develop theory, training, and consultation methods for dealing with organizational and administrative problems.

Each of these conceptions seems to have concentrated on a significant aspect of the administrative problem. Perhaps a combination of all of them would lead to a more adequate approach. Without claiming to be all inclusive this present study sets out to bring together in one investigation as many variables as possible relevant to understanding the administrative situation. The prediction of administrative success provides a test of the depth of that understanding as well as providing a practical tool for education.

The personality of the administrator is certainly one variable of utmost significance in his success. Although some theorists diminish the importance of this factor through the assertion that his role is sufficiently limited so that almost anyone can perform it equally well, it is doubtful that any would claim that personality is of no importance. Certainly in the experience of the present project the administrator's personality was of the utmost significance in determining the success of his performance.

At the other extreme are the "great man" theories that claim the pre-eminent role of personality almost regardless of other circumstances. This claim, too, seems inadequate. The school administrator who is successful in an intellectual, highly educated, integrated, town is not necessarily the same type of person who succeeds in a small farm community, or in a remote, isolated lumber area, or in a wealthy, politically conservative town.

Granted the importance of individual personal factors, which ones should be measured? Are personality factors such as dominance, gregariousness, etc. important, and if so, which of the many personality theories and psychological tests should be used? Perhaps background traits such as religion, ethnic group, and education are important. Or it may happen that some factors in the administrator's life history would help shed light on his chances of administrative success. Possibly the major factors are simply ability -- his intelligence and knowledge of the job. But then the values that he holds and the way he feels about people are often felt to be crucial to success in running an organization. Clearly, some way must be found to select and measure the most relevant individual factors.

Since social climate is generally felt to influence administrator performance a careful measure of the social setting in which an administrator functions is required. How can these community differences be classified and measured? Should the main attention be given to the immediate interpersonal situation of the administrator with teachers, board members, and staff with whom the administrator must deal? Should the study concentrate on the organizational structure determining his role relations to others and the distribution of power? The types of parents he must relate to and the economic state of the community in terms of its ability to support schools, and the willingness of the people to expend these funds is certainly of importance. But so is the social setting of the community including its history, social class, ethnic and religious distribution, major industries, attitudes toward education, and so forth. Selecting and measuring these variables is a major task of this study.

The combination of these essentially sociological factors, with basically psychological factors describing the administrators, gives promise of providing a powerful predictive tool.

The omnipresent question of all research of this type -- the definition of the criterion of effectiveness -- raises further complications. What is a "good" administrator? The criterion problem is always difficult and has never been solved to everyone's satisfaction. Is there one criterion of good administration or are there many? Is there an objective way of measuring effectiveness or must the assessment come from pooled subjective opinions? If opinions must be obtained whose should they be -- superiors', peers', subordinates', all of these? Is an administrator judged by his behavior or by his results, by what he's accountable for, or by factors outside his control? If an administrator is observed, doesn't the act of observation change his behavior? The problems are legion but must be faced if the prediction is to be optimal.

The major aim of this study is to try to answer the questions raised about individual traits of administrators, dimensions of the social situation, and criteria of administrative effectiveness, and to combine measures of these variables in such a way as to predict administrative success. To put the objective more precisely, the following formula is the basis for organizing this study:

Administrator A is rated R on criterion C in situation S.

A refers to measures of individual administrator traits.

R, C refer to criterion of effectiveness measures.

S refers to a classification of social settings.

The following three chapters deal directly with these three sets of variables. Criteria of effectiveness (R, C) are discussed in chapter 2. Chapter 3 is devoted to the development and measurement of individual measures (A). The fourth chapter derives a classification of social settings (S).

Applications of the Study Results

If any two of the unknowns in this basic formula can be determined, many practical consequences ensue:

1. Selection. If type of administrator, A, and social situation, S, are known, then the success, R, of that administrator in that situation (school district) is predictable. This has great value for school boards for the selection of superintendents, or for superintendents who select principals. At the least the method could be used to supplement other techniques. All candidates for an administrative post could be tested, the school district classified, and each candidate then given a rating indicating the probability of his success in that district.

2. Placement. If type of administrator, A, is know, and success scores, R, known, then the type of situation into which this administrator should be placed for maximum success could be derived. This would be very useful for placement of administrators. If a new administrator were about to seek employment it would be very useful for him, and for those trying to place him, to know that administrators with his type of personality and background do very well, for example, in wealthy suburban areas but very poorly in small rural districts.

3. Diagnosis. If the social situation, S, and the success, R, of the administrator are known, then a knowledge of the administrator's personal traits, A, would be very useful for diagnosis. If an administrator is not doing well in a given district, examination of his traits contrasted with those of administrators who do well in such districts may afford some insight into the nature of the difficulty. For example, the administrator may hold the value that the basic purpose of education is to develop the mind of the child, while more success in this type of district usually comes to those administrators who feel that education has the more humanistic aim of educating the total child. Diagnosis could lead to correction of the difficulty or to severance depending on many other factors, but identification of areas of difficulty could be aided by a solution of the basic formula.

In short, if the aims of this study are achieved, people engaged in the practical areas of selecting and placing school administrators and diagnosis of administrative problems will be provided with a tool to help them in their task. It should be clear that no matter how successful the research, these methods will be only aids, not definitive solutions. The number of variables is too vast, the limitations of the scientific method too severe, and the abilities of the investigators too imperfect to expect more than an additional tool. But hopefully it can at least decrease the area of uncertainty.

Scope of the Study

This project took its subjects from the public school system of the state of California. Since school districts in California vary greatly in size, geography, population density, type of school board, and many other factors, such variation requires considerable stratification of the sample and the use of a fairly large number of districts if the study is to yield the information required.

Concentration on a small number of districts would be of value but could not yield information on the wide range of variables of interest. For example, knowing the effects on administrator behavior of various types of community variables such as size, effort expended for education, socioeconomic status and ethnic distribution, requires the study of many districts representing the range of values on the variables: large and small, rich and poor, and so on. Similarly a wide sampling of districts is needed in order to study administrators of various personality types and backgrounds. The details of the sampling method are described in chapter 4.

Before sampling the school districts, decisions must be made about which administrators to study — superintendents or principals. Further, since some California districts are unified (same school board and superintendent for both elementary and high school), and some are not (different board and superintendent for elementary and high schools) a decision has to be made to study some or all of these. After considering available resources it was decided to study all the types of administration represented in California. This decision led to nine types of administrative situations, three for superintendents, and six for principals.

There are two types of high school districts: 1) unified districts, and 2) union high school districts (this term designates all non-unified union high school districts, including high school districts, joint union high school districts, joint high school districts, and city schools). In each type of district four types of studies are conducted. These studies are illustrated in Tables 1 and 2 along with the various types of subjects to be tested. (X, Y, and Z refer to variables that differ for each study. Their meaning is given in the box designating the study.)

Table 1

Superintendent studies

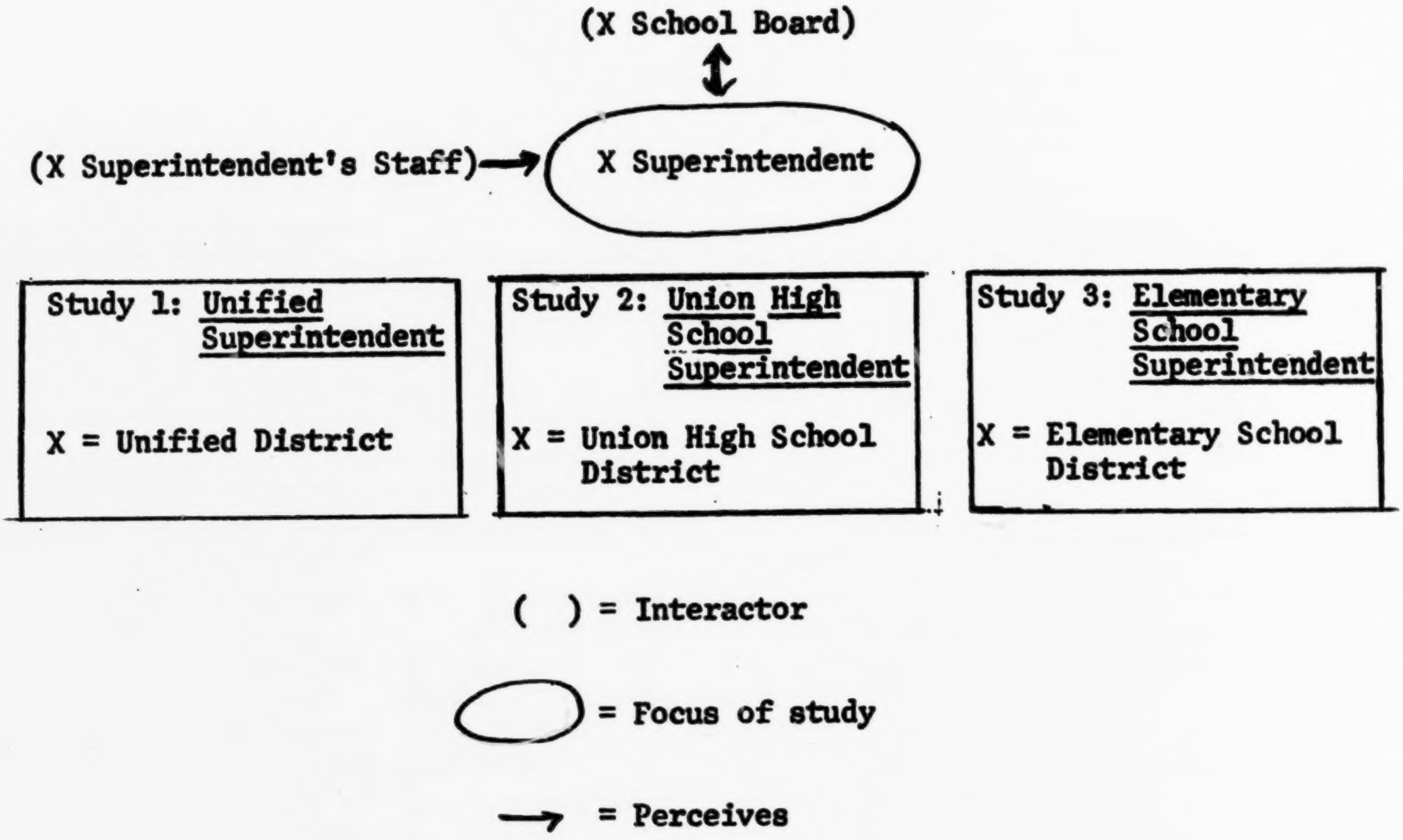
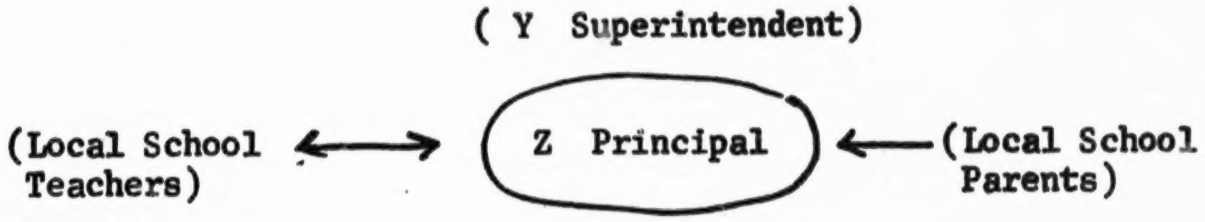

(X School Board)
(X Superintendent's Staff)
X Superintendent
Study 1: Unified Superintendent
X = Unified District
Study 2: Union High School Superintendent
X = Union High School District
Study 3: Elementary School Superintendent
X = Elementary School District
( ) = Interactor
= Focus of study
= Perceives

Table 2

Principal Studies


(Y Superintendent)
(Local School Teachers)
Z Principal
(Local School Parents)

Study 4: Unified High School Principal

Y = Unified District

Z = Unified High School

Study 5: Unified Junior High School Principal

Y = Unified District

Z = Unified Junior High School

Study 6: Unified Elementary School Principal

Y = Unified District

Z = Unified Elementary School

Study 7: Union High School Principal

Y = Union High School District

Z = Union High School

Study 8: Union Junior High School Principal

Y = Union High School District

Z = Union Junior High School

Study 9: Elementary School Principal

Y = Elementary School District

Z = Elementary School

( ) = Interactor

○ = Focus of study

→ = Perceives

In summary, these are the nine studies.

Superintendents of:
1. Unified districts
2. Union high school districts
3. Elementary school districts

Principals of:
4. High schools in a unified district
5. Junior high schools in a unified district
6. Elementary schools in a unified district
7. High schools in a union high school district
8. Junior high schools in a union high school district
9. Elementary schools in an elementary school district

Since the subjects are to be analyzed separately as a group representative of the state of California each group of administrators must be chosen randomly. In the subsequent analyses the administrators may be sometimes analyzed separately, sometimes combined.

In order to examine the interpersonal phase of the administrator's job, and to obtain several perceptions of the total situation, information must be obtained from the people in the best position to observe the educational scene. These include: school board members, superintendents, principals, administrative staff members, teachers, and parents.

Data Collection

Acceptance of the invitation to participate in the study obligated a school district for a great deal of time and effort. A two-hour questionnaire had to be filled out by school board members, superintendent, principal, administrative staff, all teachers, and parents. The planning, space, time, invitations, etc. constituted a considerable burden on the district in return for which they received nothing more tangible than the assurance that they were making some vague contribution to science and that they would receive a summary of the results when completed. Research projects requesting something of this type have typically met with far less than success.

The cooperation of the California Commission on Public School Administration (see foreword) was crucial at this point in the study. The commission comprises representatives of twenty colleges and universities in the state from just below the Oregon border in the north (Humboldt State College), to just above the Mexican border in the south (San Diego State College), and all the major educational organizations in California. With this cooperation it was possible to approach each district selected in the sample from two directions. Most of the organizations publicized the study in their newsletters, meetings, and personal contacts, and urged their members to cooperate. This effort gave the study added respectability and status in the eyes of the educators. Then direct contact with the district superintendent was made not by a stranger from a research project located at Berkeley, but by a faculty member from the local college or university representing the research project. Very often the superintendent approached was a former student of the faculty member, and almost always was a friend and had considerable contact with the educational institution on other matters. The cooperation of districts was increased enormously through these personal contacts. It seems doubtful in retrospect if more than a small fraction of the school districts finally participating would have been obtained without this method.

After a district agreed to participate either the representative himself or someone sent from the central research staff would arrange a time for administration of the two-hour test battery and administer the tests to district personnel somewhere in the district, usually at a local school building. Two teams, one north and one south, were trained in administration of the test battery by the central research staff and dispatched to the various school districts.

The test battery was put into a printed test booklet with attention given to the sequence of tests, and to a written continuity between tests. The continuity is an attempt to explain the purpose of each test, make it self-administering, and pre-answer questions that had arisen frequently in the pilot study. This was important because although all test administrators were well trained, there were many of them, and the tests often had to be given under very peculiar circumstances, so that all efforts toward standardization were needed.

The booklets were carefully checked and counted as they were returned and errors were followed up quickly by phone or by a personal return to the district.

Delinquent districts were pursued doggedly until they either returned their booklets or decided definitely not to participate.

The booklets were edited and prepared for key-punching onto IBM cards.

Tables 3 through 9 present some characteristics of the sample obtained. More detailed discussion of the sample is presented in chapter 4.

Table 3

Size of sample

	Number	
Board members		231
Superintendents	57	
Staff	232	
Superintendents/Principals	38	
Principals	118	
Total Administrators		445
Teachers		3750
Parents		1421
TOTAL		5847

Table 4

Sex distribution of sample (in percent)

	Male	Female
Board Members	83	17
Superintendents	98	02
Staff	63	37
Superintendent/Principals	82	18
Principals	82	18
Teachers	49	51
Parents	10	90
TOTAL	44	56

Table 5

Marital distribution of sample (in percent)

	Divorced	Separated	Single	Widowed	Married
Board Members	00	00	00	01	99
Superintendent	02	00	02	02	94
Staff	03	01	09	05	82
Superintendent/Principal	08	00	00	03	89
Principal	03	01	10	06	80
Teacher	05	01	19	04	71
Parent	01	01	01	02	95
TOTAL	04	01	13	04	79

Once married (divorced, separated, or widowed)	09
Never married (single)	13
Married (now married)	79

Table 6

Age distribution of sample (in percent)

	Under 26	26-30	31-35	36-40	41-45	46-50	51-55	56-65	Over 65	Average Age
Board	00	00	13	11	30	21	15	07	03	44
Supt.	00	00	02	14	11	19	21	32	02	51
Staff	00	03	07	12	21	18	24	14	01	47
Supt/Pr	00	03	14	14	23	29	09	09	00	44
Princ.	00	02	14	20	20	18	14	10	01	44
Teacher	12	15	16	14	13	11	10	08	01	36
Parent	01	07	19	27	26	14	05	02	00	39
TOTAL	08	12	16	17	17	12	10	07	01	38

Table 7

Distribution of religious preferences of sample (in percent)

	None or Agnostic	Jew	Cath.	Bap.	Meth.	Cong.	Unit.	Epis.	Other
Board	05	03	12	08	26	01	01	11	27
Supt.	06	00	00	06	31	13	00	07	37
Staff	04	01	08	05	25	09	02	11	35
Supt/Pr	08	00	08	05	21	05	00	16	37
Prin.	05	00	09	08	25	08	02	14	29
Teacher	08	01	16	08	17	06	03	09	31
Parent	04	03	12	13	19	06	03	09	32
TOTAL	07	02	15	10	20	07	03	10	26

Table 8

Ethnic distribution of sample (in percent)

	Negro	Mexican	Oriental	Caucasian
Board members	00	02	01	97
Superintendent	00	00	00	100
Staff	00	00	00	100
Superintendent/principal	05	00	00	95
Principal	01	03	01	95
Teacher	01	02	01	96
Parent	04	01	02	93
TOTAL	02	01	01	96

Table 9

Distribution of political preferences of sample (in percent)

	(8) Thomas	(7) Bowles	(6) Adlai	(5) JFK	(4) Rocky	(3) Nixon	(2) Goldw	(1) Welch	Average Preference
Board	00	01	09	25	15	28	21	00	3.72
Supt.	00	00	19	15	19	44	04	00	4.05
Staff	00	00	11	28	19	32	10	00	3.98
Supt/Pr	00	00	08	26	29	24	13	00	3.92
Prin.	02	03	19	30	12	27	07	00	4.44
Teacher	01	01	13	39	11	24	11	00	4.26
Parent	01	01	10	41	09	25	14	00	4.19

Preparation of Measures

Analysis of the data is a formidable task because of the large amount of material collected and because of the need to interrelate three sets of variables, personal traits, social characteristics, and effectiveness criteria.

For all three sets of variables the same treatment is used. The content area covered by the variables is surveyed and a theoretical framework is developed for conceptualizing the approach. Measures are selected or developed to assess the variables. All the measures that practical considerations will allow are administered to the population. Some type of factor analysis is done on the resulting measures to reduce them to a more workable number.

This approach anchors the measures at both ends, the theoretical and the empirical. Theory without an empirical check could result in so many measures that analysis would be prohibitive. Also the relations among the various measures would not be known without empirical analysis,which may result in much redundancy.

Empirical derivation without a theoretical basis leads to the often voiced criticism of factor analysis that one only gets out what he puts in. A fully developed framework helps to insure that the pool of measures put into a factor analysis is reasonably comprehensive and representative of the area under investigation. To further insure that these properties exist, the facet design method of Guttman (1960) recommended by Humphreys (1962) for this purpose was used to describe an area of interest. This technique, also called substruction by Lazarsfeld and Barton (1958), utilizes the basic dimensions or facets of an area of inquiry to generate all possible combinations of phenomena in that area. It is therefore an ideal method to use in preparation for a factor analysis.

Another methodological decision concerns the type of scaling methods to use. It soon became clear that many new scales would have to be constructed, as many as one hundred. The Guttman cumulative scaling method was selected because it seemed peculiarly appropriate to this type of study. This method is somewhat more demanding than the other scaling methods in that it requires that scale items belong to only one dimension, and that they increase in degree of intensity along that dimension. Typically these conditions are met only if the items to be scaled cover a relatively narrow and clearly delineated area. Since the theoretical exploration and facet design tended to produce such areas the cumulative scale seemed ideal for retaining this advantage.

Another virtue of the Guttman method is that if sufficient work is done to produce a real scale a relatively small number of items may be used to obtain good differentiation among respondents. It was decided to use nine-item (ten point) scales uniformly for all measures. Ten points is usually sufficiently long to allow for differentiation needed, and sufficiently short to be convenient. The fact that the scores (zero to nine) fit neatly on an IBM column is a secondary but practically important advantage.

Since there were so many scales to construct, a computer program was devised for Guttman scaling (Schutz and Krasnow, 1964). Appendix D describes the scaling method in more detail.

Thus the measures used were typically narrowly defined and brief -- allowing for many measures which could then be interrelated rather than using more global measures that incorporated several dimensions at once.

Data Analysis

Measures obtained on each of the three sets of variables had to be analyzed in such a way as to satisfy the basic formula of the study. The analysis was approached in three stages.

1. How well are the criteria predicted by individual predictors?

Perhaps individual measures are adequate predictors of administrative effectiveness contrary to the major hypothesis of the study, and to the results of many other studies. But if there is one trait that is significantly correlated with the criterion it would be found here.

2. How well are the criteria predicted by combining individual predictors?

If one variable is not adequate for prediction perhaps a combination will be sufficient. Among other hypotheses, the "great man" theory would be tested at this stage. This type of prediction is accomplished with the aid of regression equations.

3. How well are criteria predicted by combining predictors and taking account of district differences?

This is now the full statement of the basic formula. The hypothesis of the study is that the predictability of administrative effectiveness from individual measures is enhanced significantly by a consideration of the type of district in which they work. This prediction should yield the best results and provide the data desired to satisfy the basic formula.

If the results are sufficiently promising a manual for selection and placement of administrators, and diagnosis of administrative difficulties could result.

Theoretical Implications

In the course of developing predictor methods several theoretical issues arose. Among these the most extensive was the FIRO theory of interpersonal behavior (Schutz, 1958) which was used as a basis for many of the individual measures, and for development of some of the criteria of effectiveness measures. Where appropriate, discussion of this and other theories is presented. Some of these discussions lead to specific hypotheses. When feasible these hypotheses have been tested with the data of this study, but this exploration is secondary to the main effort of predicting administrator performance. A later publication will explore more extensively the hypotheses generated by theory.

Criteria of Administrative Effectiveness

by

William C. Schutz

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What is a good administrator? How can his effectiveness be measured? These questions - the criterion problem - are among the most difficult to answer for any evaluation research effort and the present one is no exception. Unfortunately, there is no clear cut, simple measure to be made of administrative effectiveness. Success seems to depend on the administrator himself, his co-workers, the setting, his predecessor, the state of the economy, and many more factors. However, in order to do a significant study of administrative performance the criterion question must be dealt with.

In the following pages the literature on the problem of administrative (or executive, or organizational, or leadership) abilities will be surveyed briefly. Then an analysis of the situation with regard to administrative performance in education is offered culminating in a series of test instruments for its measurement. These measures are used in the present study.

Review of Studies of Administrative Effectiveness

Studies of administrative performance may be classified for convenience of presentation into the following types:
1) character trait: studies which focus on the individual properties of the administrator as predictors of administrative performance.
2) group factors: studies which focus on the interplay of factors present in the group situation as determinants of administrator behavior.
3) role expectation: studies concerned with the internal attitudes and perceptions of both leaders and followers and the relation of these attitudes to administrative success.
4) organizational models: studies which use the forces within the total organization to understand the actions of the administrator.

Character traits

Scanning the literature for a summary of leadership behavioral traits, Gibb (1954), drawing chiefly from Stogdill (1948), lists the following: physical and constitutional factors such as height, weight, physique, energy, health, and appearance; intelligence; self-confidence; sociability; will (initiative, persistence, ambition); surgency (geniality, expressiveness, originality). He emphasizes, as does Stogdill and most other studies, that different leadership characteristics are needed in varied situations.

Stogdill drew up a listing of the major criteria which had been used up to 1948. Fifteen studies substantiated criteria which leaders and administrators held, in most cases, more than the average group member, including, intelligence and scholarship, dependability in exercising responsibility, activity and social participation, and socio-economic status. Ten studies added: sociability, initiative, persistence, self-confidence, popularity, ability to adapt, and verbal facility. Stogdill then categorized these characteristics into six general categories: capacity, achievement, responsibility, participation, status, and situational factors.

Borg, Burr, and Sylvester (1961) combined characteristics from thirty-five different studies of educational administrators using four functional criteria: ratings by superintendent of the principals; anonymous teachers' ratings; independent observers' ratings; and the principals' self-ratings. The common variables, which differed slightly for each functional criterion were: personality, administrative ability, general knowledge, professional knowledge, cooperation, tact, stimulation of co-workers, social activity, good judgment, originality, communicativeness, forcefulness, physical character and attitude toward teachers.

Several studies have been made which used various research and questionnaire formats to choose the working criteria for their studies. At the University of Tennessee, Kimbrough (1959) devised the Tennessee Rating Guide. On the basis of the ratings of forty-eight high school principals in the area, characteristics of effective and ineffective administrators were delineated. The major criteria were: good interpersonal relations, dependability; good decision making and problem-solving; inclusion of others in policy formulation; intelligence; and the study of new educational techniques.

Using the Guide,which had been established according to these a priori criteria, professors of administration at the University of Tennessee were asked to select three competent superintendents, who in turn rated, according to the Guide, the least and most efficient administrators in the region. Kimbrough's a priori criteria were found satisfactory and furthermore, he notes that he found that those administrators with the proper behavioral characteristics correlated most highly with those individuals who consistently furthered their factual knowledge of the administrative field.

In the Wisconsin Studies of the Measurement and Prediction of Teacher Effectiveness, Barr and his associates (1961) devised three criteria types: efficiency ratings, pupils' gains, and preservice evaluation. The latter included: skills and attitudes, personal prerequisites, interpersonal needs, educational objectives and means of achieving these goals, and guidance and evaluation skills. The rating based on these criteria consisted of fourteen questions about personal qualities, ten about competencies, an examination of the effects of the teacher's leadership (through standard achievement tests administered to the pupils), and a fourth area of "behavioral control", a rating of specific knowledge, generalized skills and attitudes and ideals.

Grobman (1956) states that effective principal behavior has a high correlation with democratic conduct. He asked eighty principals how they operated in eighty-five different school situations, and then sorted the responses, distinguishing between those who operated democratically in more than half of the situations from those who did not. The responses were then reviewed by ten professors of administration from the University of Florida, who found that the most effective solution in each situation correlated highly with democratic behavior. Grobman also found that although the principals' behavior had strong effects upon teacher, student and community attitude toward the school, it did not affect subject matter or teacher-pupil relationships.

Several investigators have created categories of educational leadership for their own investigations. Harrell (1964) conducted an experiment in leadership behavior in a group problem situation. The members of each five-man group were participants in an executive development program; all had taken the Stanford Management Potential Test Battery, which was used as a predictor of leadership and for assessment of the reliability of observed ratings. Two graduate students of psychology observed the behavior of each group and gave individual leadership ratings on: best ideas, guidance of the group, best decisions, amount of participation, liking, and enjoyment of the group.

Platz (1960) devised a chart of the varied roles, skills and abilities, and types of knowledge necessary to the effective secondary school administrator. The major roles of his leader were in the areas of leadership, participation, management, and liaison and public relations.

Newell (1962) rates leadership criteria, in order of importance: 1) effective leader, experienced in leadership and individual appraisal; 2)responsibility; 3) knowledge, technical and general, and of the various educational disciplines. Hines (1961) presented a twenty-situation checklist of desirable leadership characteristics to parents, teachers, students concerned with one Florida school. They found the most prominent characteristics to be group leadership ability, democratic and consistent behavior, and knowledgability. Wetzler (1955) sees administration in terms of five roles: 1) educator, 2) administrator, 3) personnel administrator, 4) public relations administrator, and 5) business administrator.

Anderson and Davies (1956) formulated an evaluative scale for patterns of educational leadership. It consisted of,1) he sees education in relation to society at large (incorporating interpersonal democratic values); 2) he has a balanced view of education in the professional sense (decision making, knowledge of community and teaching matter); 3) he is a specialist in the processes of administration (problem solving); 4) he is a robust, healthy person; 5) he has superior mental ability; and 6) he is emotionally and socially mature.

Teachers evaluated their leader when a principal, Gilbert R. Weldy (1959) issued an anonymous check list to them. The criteria they found most important were: 1) democratic behavior, 2) free opinion and judgment, and correction of teachers' faults; 3) clear policies; 4) frequent meetings; 5) efficient administrative organization and discipline; 6) duty delegation; and 7) community representation in policy-making.

Group factors

Another set of investigations focuses more of the relations among group members and leader, than on the personal traits of the leader alone, to describe the emergence of effective leadership.

Stogdill (1948) in some of the most comprehensive theoretical work in this area, builds upon his leadership characteristics by creating the initiation-consideration rating for effective groups. It becomes clear that more important to the leader than the possession of specific personality traits is the ability to 1) show active consideration of others, and, 2) initiate group interaction in that particular group situation. Thus, a list of desirable behavioral characteristics becomes a less consistent measure of the effective leader, because in each situation it is likely that different qualities will be most successful in mobilizing the group members. The behavior and characteristic needs, then, of each member of the group is as important in determining whether or not the group will be effective and which individual will be most successful in leading the group, as the particular characteristics which make one man the administrator, or leader. The several other broad definitions of the leadership function, those defined in terms of sociometry, influence and control, and group progression or syntality — all would seem to take account of the preferred personal traits of the potential and likely leader, but incorporate these into a broader structure which measures the administrator in terms of his effect upon the group.

Redl (1942) in a classic paper, reviews Freud's definition of the leader and his role and his distinction between individual group emotions. There are constituent emotions which each member brings to the group situation, and secondary emotions which are stimulated by the group. It is the latter which directly contribute to the leadership function. Basically, the leader is the "central person" around whom the group formative processes develop. Redl defines ten basic functions which the leader can perform, such as a source of identification for group members, an object of majority emotional drives, a stimulant (ego support) for these drives, or a common conflict solver.

A large group of studies have developed from Barnard's (1938) distinction between "efficiency" and "effectiveness". Sharp (1962) clarifies this as, 1) efficiency in goal achievement and 2) effectiveness in satisfying the social and emotional needs of the group. In the informally structured group studies more emphasis is placed on this second criterion. The group members are no longer simply tools for achieving a goal, but must be satisfied interpersonally as a part of the leader's task. Stogdill (1948) constructed two primary criteria for testing these two factors of the successful group: a) consideration of others and b) initiating structure in interaction. It is clear that although one criterion pertains more to task accomplishment and the other to individual need satisfaction, both are highly correlated with the successful interpersonal relationships between group and group member and leader and group members. Stogdill and Shartle (1948) indicate in their study that since research must be conducted within the interpersonal situation from which leadership evolves concentration must be on the group structure as well as upon the unit's goals. However, data must be used primarily to find the relationships between the jobs that leaders do, since "leadership is the process of getting things done". From this, selection criteria are developed. One finds that the distinctions between the various studies can not be easily drawn. Some concentrate more on need satisfaction, others on goal accomplishment of the leader and his group.

Halpin (1958), Taylor, Crook, and Dropkin (1961) and Campbell (1960) have all utilized Stogdill's hypothesis in studies similar to the original one.

Halpin and Winer (1961) tried to find the most influential leadership characteristics. They determined nine a priori dimensions and reduced these to four major functions. A number of airplane commanders rated the importance of the four variables. Their findings were that "consideration" was the most important trait followed by "initiating structure", production emphasis and sensitivity (social awareness) In the Ohio State Study, Halpin (1958) substantiated Stogdill's findings that the most effective leaders functioned well in both categories. Halpin also used Stogdill's Leadership Behavior Description Questionnaire (LBDQ) test, as a test of democratic leadership based on the two criteria. Taylor, Crook, and Dropkin (1961) utilized a form of the LBDQ. They observed thirty-seven students, each participating in two thirty-minute, six-man discussion groups over a period of two years. They were joined by selected members of the faculty, who were trained in the method of the study before observation, but who judged the students independently. Each student was rated on "initiates structure" and "shows consideration". They introduced a sub-division of the first criteria, "influences structure in interaction", but this was rated far less reliably from one meeting to the second than were the basic criteria. Campbell (1960) used Stogdill's studies of character traits such as capacity, achievement, responsibility, participation, and status and situational factors, but he seems to emphasize the initiation criterion more strongly. As the primary characteristics for effective leadership he lists: 1) facilitating development of group goals and policies; 2) stimulating the development of appropriate programs; and 3) procuring and managing personnel and material.

Hemphill (1950) views administration as problem-solving. Through this process, he indicates, the leader may take the initiative in structuring group interaction. On the other hand, Griffiths (1958) feels that decision making is a central function of the administrator. The decision is closely correlated with action itself and is more goal-oriented than the problem situation, he states. In these two different emphases, we again can see the concentration on two different areas, task accomplishment and need satisfaction.

Role expectation

Although the following studies are not yet conceived as a formal leadership theory, they begin to incorporate ideas which are particularly relevant to leadership theory on a large scale. Each of them emphasizes the different points of reference and fulfillment of co-workers expectations of their performance. Here, not only the actual function that the leader performs, but the group members' perceptions of what he is doing, become important.

Bass (1961) states that the leader is able to cope with group's problems. His success depends on 1) the group members' perceptions of the situation, 2) his powers of coercion, 3) the ability to persuade others of his value and capability, 4) knowing when to restrict, and 5) when to be permissive.

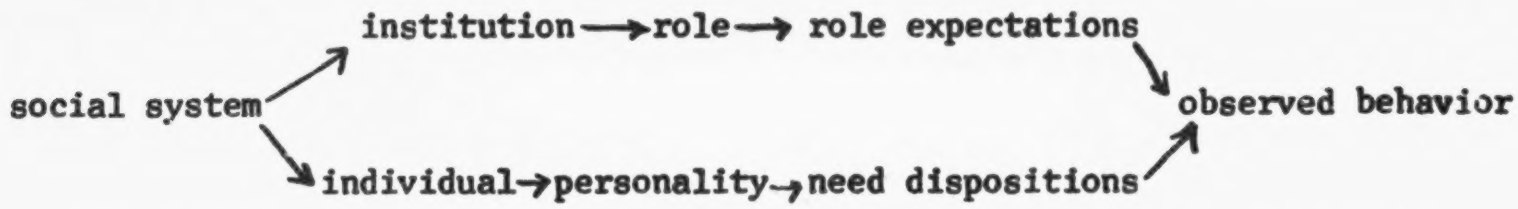
Criswell's study (1961) is based on sociometry. She agrees that task accomplishment and satisfaction of interpersonal needs comprise group effectiveness. In establishing a pattern of leader choice, however, she alludes to Moreno's concept that the leader is chosen by "influence transmission". The leader, or administrator, is chosen by a large number of people or a frequently chosen person. In the same vein, she refers to Fiedler (1963) whose many intriguing experiments led him to the view that sociostatus and psychestatus (need-satisfaction, role perception) must be found together in the most effective leader.

Hollander (1961) concentrates largely on goal accomplishment. The two most important characteristics of the leader are, 1) competence in the group's central job or "task competence" and 2) active membership in the group as perceived by the other members. He hypothesizes that by performing as a member of the group, the potential leader builds up "idiosyncrasy credits" and may then attempt to innovate and challenge the established patterns of the group. The criteria Hollander indicates in order to assume this leadership role are social perception and modifiability of behavior.

In another study, Hollander (1961) divided 187 cadets into eight sections and asked them to nominate three potential leaders for a hypothetical dangerous mission. He then asked the cadets to presume that they were each leaders, and questioned which three followers they would be most likely and least likely to select from the group. This measure showed definite indications that the good leader is often selected as a good follower.

Hollander also checked his "idiosyncrasy credits" hypotheses by using a group situation. In several groups of five individuals each, the non-conformer who tried to take on leadership functions early in the sessions lost any influence he had had previously. The late non-conformer was able to challenge majority ideas, to encourage others to disagree, to talk out of turn, etc.

Hills (1960) views the administrative process as mediation between institutional expectations and personality needs. Criteria of effective and efficient leadership must, therefore, include behavior relative to the expectations of the observers. The best leadership is a compromise between the institutionally-oriented and personally-oriented patterns. He clarifies this with a diagram:



Roff (1950) had a different approach to the frames of reference rating. He used two different groups with the same rating scale. He took pilots of different ranks and had them rate each other, on: competence in flying, fairness, courage, administrative competence, responsibility, and likability. Superiors rated their subordinates and vice-versa. Roff found the greatest discrepancy on the interpersonal level, where superiors were rated lower than their subordinates.

Stogdill and Shartle (1948) did a study similar to that done by Roff. Twenty-four officers of the Naval Command Staff rated themselves and the persons with whom they worked on an RAD index (responsibility, authority, and delegation). The officers were also rated by observers on their sociometric type, level in the organization, and the amount of time which they had spent with the members of the organization whom they themselves had rated.

Organizational models

Shartle (1961) states that in the interdisciplinary model of leadership the emphasis is placed on "the situation, the environment of organizations, and organizational values". He suggests that the reference points which must be considered are: 1) individual behavior, 2) organizational behavior, 3) environmental events, and, 4) interactions of these three. He specifies certain independent and dependent variables which may be utilized to judge the administrator's performance. Major variables which may be rated on the basis of the leader alone are: value patterns, situational patterns, measures of aptitude, knowledge, and skill; measures of personality and interest; measures of physical energy and capacity; past individual and organizational performance; and the task or problem assigned. Measuring these variables is relatively simple compared to measuring those dependent variables which must be analyzed as part of the organizational process and where the leader's performance is largely dependent upon the group and the task situation. This type of variable includes: the decisions made; ratings of performance; measures of attitude change; objective measures of performance; tenure and mobility; work patterns; leader behavior dimensions; sociometric ratings; and learning behavior.

Argyris (1961) also concentrates on the organizational structure as the most accurate, direct route to the proper role of the leader. In addition, he feels that interactors' ratings of the leader can not be measured accurately without an awareness of a strong tendency to identify organizational controls (requirements, restrictions, budgets, etc.) with the leader himself. Each of his criteria would figure, in other words, as one of Shartle's dependent variables. They include: awareness, control, internal influence, problem-solving, time perspective, external influence, and organizational objective.

Roby's (1961) concept of leadership is similar to that of Shartle and Argyris in that the executive function is viewed as the "entire process by which group actions are selected from a pool of potential actions". He does not touch upon personal or behavioral characteristics, but elaborates upon the group action as the clue to the leadership role. Roby hypothesizes that each group action is composed of "action units"; this combination of acts he labels a "response aggregate". The group's task is to select the most valuable "RA", one which is most suitable to their environmental state. Thus, the leader's role is to 1) bring about congruence of goals, and to emphasize existing congruences; 2) propel intelligent choice of RA's and keep a broad field of potential RA's. Make sure that the group becomes committed to tasks only if group members have the skill and motivations necessary; 3) focus materials on decision-making processes; 4) provide information after structure is established; 5) make final decision; 6) function as arbitrator. Roby goes on to say that "the ability of a leader to fill any breach in the executive process may be more significant than the particular functions he performs routinely...the latter can almost certainly be delegated or institutionalized..." The need for this function, Roby qualifies, implies a fault in the executive structure and, though necessary, is probably less effective than the routinized leadership functions. He continues, "...truly effective personal leadership depends upon its ability to recognize when its own operation is required; it depends equally on a readiness to surrender the reins when its purpose has been accomplished". Thus, according to Roby's somewhat rigid definition of the executive structure, personal leadership must emerge only when it is necessary to make an immediate, or arbitrary decision.

Bennis (1961) in a definitive essay on leadership theory, points out that the organizational structure is necessary for self-assessment of administrative performance: "The decision maker, then, faced with no operable means for evaluating a decision -- as is often the case -- and with limited data, has no other recourse than to utilize a group, both as a security operation and as a validity tester." The organization, or group in a smaller dimension, is utilized as a situational and measurement tool even when only the actual material goal is a basis for measurement of effective performance. It assumes even greater importance when the success of interpersonal relations within a group which is performing a specific task is also judged as part of the administrator's goal. The organizational theories do emphasize this group development process in varying degrees. Bennis states that the functions of authority are a combination of role and expertise and that the latter may be further divided into: 1) knowledge of performance criteria and 2) compatibility of human elements of administration.

From this brief review a number of points emerge. There is little convergence of viewpoint. The character trait studies use a wide variety of frames of references, theoretical orientations, and data gathering methods. Interactional and organizational approaches seem to incorporate more relevant phenomena but lack a comprehensive framework.

On the brighter side certain similarities do appear. Barnard's original distinction of a task oriented and interpersonal oriented criterion for administrative success has withstood many investigations. Also the interactional approach involving not only the leader but his followers seems to be most fruitful. Bennis' excellent review of theories summarizes these advances.

In the next several pages an attempt is made to build on the results of these studies combined with personal experience in the educational setting, and integrated through the FIRO theory of interpersonal behavior. This approach aims at a theoretical analysis of the administrative process and a justification for various measures of administrative performance.

In organizing the functions of the administrator, guidance from the FIRO (Schutz 1958) theory will once again be utilized. The first area of administrative functioning is the *inclusion* of all of the available resources for doing the administrative job. The various people and groups that can help administer a school or school district must be identified and developed optimally by the administrator. This area shall be called the *use of human resources*.

Controlling these elements in such a way as to organize and integrate their contributions most usefully is the second major area of administrative functioning. This area shall be called *task effectiveness*.

And finally, creating a personal bond among the people involved in the educational enterprise is essential for the continuation of the coordinated activity required to run school efficiently. Ability to create these successful *affectional* relations will be called *interpersonal effectiveness*.

This discussion is intended to be exhaustive, considering most, if not all, of the widely used criteria of administrative effectiveness. When substantive decisions about the approach must be made -- for example in determining the aims of democratic education or the functions of administration -- the decisions usually reflect standard practice. Where this is not feasible, decisions are based on the present project's evaluation of the available evidence. With this general understanding, the presentation is made in declarative form omitting the necessity for qualifying each assertion.

Issues

Number of Criteria

Investigators into criteria of effectiveness often seek the single best criterion. Examination of various administrative situations suggests that this search may be fruitless. In some cases it is important for an administrator to be an educational leader; in other circumstances the primary requisite is the ability to persuade the community to vote for school bonds; at yet other times he must be able to supervise an extensive building program. Experience indicates that some men may be adept at some of these functions but not at others; thus, to call any one ability "the" criterion seems to lose a significant differentiation. It would appear more useful to describe and measure several criteria for administrative effectiveness, and then to determine which criteria are most important for each situational requirement. The research task is to investigate the main criteria used by or useful to those interested in administrative selection.

Hierarchy of functions

The goals of administration are unique in their remoteness. A scientist's goal is a specific scientific achievement, a baseball player's goal is to get a hit, a plumber's is to fix a sink. For these occupations the goal is accomplished primarily by the direct application of one man's skills. Not so an administrator. He must create conditions that result in a number of people functioning in such a way that an organizational goal is accomplished (Barnard, 1938).

This difference leads to a special difficulty in assessing an administrator's effectiveness. A ball player either hits or doesn't, a plumber fixes the sink or not. By and large their success depends entirely upon themselves. But an administrator's success depends upon many factors other than himself and his abilities. An industrial executive is successful if his firm shows a profit; a baseball manager if his team wins; a president if his country stays out of war and depression; a principal if all his students realize their full potential year after year. The special difficulty arises because these goals of the administrator depend also on many factors other than the administrator's ability. The company's profit is a function of the state of the economy, the international situation, the competition, the amount of available capital, the public reputation of the company's product, and so forth. The baseball team's success depends on the quality of players, the willingness of the front office to spend money for needed players or coaches, the support of the fans, the history of baseball in the town, etc. The achievement of the student depends upon the help given him at home, his native ability, the economic condition of the community, the intellectual tradition and educational level of the parents, and so forth. All these are factors over which the administrator has limited or no control.

Although this distinction between the accomplishment of the administrator and accomplishments of other occupations is somewhat overdrawn, nevertheless accomplishment of the ultimate goal of an administrator is not as accurate a measure of his effectiveness as it is for many other occupations. To arrive at a better measure of administrative effectiveness it is useful to examine administrative sub-goals. For example, the principal's ability to motivate the community to support the schools is probably relevant to the accomplishment of his ultimate educational aims. The sub-goal as a measure of administrative effectiveness has the advantage of being a direct result of the administrator's actions and the disadvantage of having only an inferential relation to the ultimate goal of student performance. That is, it is not certain that schools in communities with well-motivated citizens will produce students who realize their potential, but it is assumed that this result is highly probable.

Thus, both administrative results and administrator performance may be used to measure administrator success. He may be assessed as to whether or not his students achieve up to their potential, or on his method of making decisions. In the present project results are considered of greater importance, but performance is usually easier to measure and easier to attribute directly to the administrator. Although results are considered more important, the administrator must be held less accountable for them than for performance. These two aspects will be considered below in more detail.

Delegation and the leader as completer

The above considerations are related to the issue of delegation. How shall the work done by an administrator's subordinates be evaluated? Should the administrator be evaluated in terms of his own behavior, or in terms of what is accomplished by his school regardless of who does it?

The concept of leadership that seems most satisfactory to the present investigators is that of "the leader as completer" (Schutz, 1961) This concept does not specify any set of behaviors as desirable or defining for leadership. Rather, it focusses on leadership as the ability to insure that a group accomplishes its goal. Leadership functions are concerned with the total group operation, and assuring that all the specific functions necessary to accomplishing the goals of the group are being performed optimally. The role of leader, or administrator, requires 1) knowledge of necessary group functions, 2) sensitivity in perceiving which group functions are not being performed optimally at a given time, 3) ability to fulfill or have someone else fulfill that need optimally, and 4) willingness to do what is necessary to satisfy these needs even though personally displeasing.

This concept favors strongly the view that an administrator should be judged by the results of his organization's performance regardless of which functions he performs and which he delegates. An administrator is therefore considered effective if he recognizes his own abilities and limitations and compensates for his limitations by delegating well. Delegation becomes one of his primary tools for accomplishing the goals of the organization (Dewey, 1958).

Accountability

A school administrator and his staff usually contribute considerably to accomplishing the goals of a school, but there are often other contributing factors as well. For example, community members may cooperate with the schools not only because the principal motivates them well, but also because they want their schools to be good regardless of the principal. Also, the principal is limited by factors outside his control, such as inherited problems, inherited staff, and state of the economy.

To evaluate any administrator fairly, it is necessary to compare his performance with the realities of the total situation. If he is placed in a position where it is relatively difficult to accomplish school objectives, he should receive more credit for success than if he is put into a relatively simple position. In other words, a full assessment of administrative effectiveness should include a measure of how accountable the administrator is for the events that occur in his school situation.

Accountability is assessed by measuring the difficulty of the job. It should take account of what would have happened had an "average" or "the best possible" administrator been on the job.

Frames of reference

The multiplicity of criteria of effectiveness was considered above in terms of the many functions on which administrators may be judged. In addition, each function may be perceived from several different points of view and by a variety of people (Coladarci, 1956; Hollander, 1961). For example, a superintendent may be rated very high on administrative skill by school board members, but very low by teachers. It does not seem meaningful to look for which is "really" true. All perceptions are true in the sense that they are reported as seen by some person or group. Whether or not each perception is supported by additional evidence, the perception itself is often an important consideration with respect to effectiveness. If a community perceives the administrator as inept, they may vote against a tax increase regardless of whether or not he is "really" inept. Perceptions are realities that must be taken into account.

Further, it is quite possible that two different perceptions of the administrator might both be supported by more objective evidence. For example, a principal may be very submissive when dealing with the superintendent and very domineering with teachers, leading to two contradictory but accurate descriptions of his dominance behavior by two different perceivers. Since each of these perceivers observes different facets of the administrator's behavior, it would not be reasonable to expect high inter-rater agreement among perceptions of the various groups. A principal could reasonably be expected to exhibit different behavior when he is discussing a budgetary problem with the superintendent than he does when socializing with a community leader, disciplining a student, or supervising a teacher. These different behaviors may or may not affect each interactor in the same way.

It seems, therefore, that measures of effectiveness should specify not only the area of effectiveness being considered (educational leadership, organizational ability, etc.), but also the point of view from which this evaluation is made (i.e., the person or group making the evaluation). (Halpin, 1960)

A complete statement of an effectiveness rating would now take the following form:

> "Administrator A is rated E relative to the best possible performance on function C by person (or group) P."

The most comprehensive evaluation of an administrator's total behavior includes the perceptions of all persons in a position to observe significant administrative behavior. Such persons will be called the administrator's interactors. The interactors of school principals, for example, include teachers, parents, superintendents, school board members, community leaders, local building employees (secretaries, custodians, gardeners), students, other principals, supervisors, and central office administrators. In most cases these interactors have an opportunity to observe some part of the principal's behavior, although the opportunity is limited for many, and some members of these interactor groups (inactive parents, for example) have virtually no opportunity to observe.

There remains a serious limitation to this method of assessment. A satisfactory rating from all the above interactors may simply mean that the principal is performing satisfactorily. But what assurance is there that he is doing a good job by some more "objective" or "absolute" standard? Certainly, it is undesirable to limit this research project to maintaining the status quo, or at best, to raising all administrators to the level of the best existing ones.

One solution to this dilemna is to add another point of reference for the ratings contemplated. This new rating would compare the performance of a given administrator with some absolute criterion of administrative excellence. This rating could probably be made best by those people most acquainted with the absolute criteria, perhaps professors of educational administration. They could rate administrators on the basis of how closely they approximate the "ideal" administrator. This would constitute a criterion allowing a research project to recommend administrators who might exceed the status quo. All administrators could theoretically be rated lower than the ideal, even if judged to be the best administrators available.

A second approach is to discover or devise criteria that could be agreed upon as ultimate for the determination of an able administrator. This is perhaps not so unattainable as it may seem. If we consider the aims of education, it may be agreed that the sole ultimate function of an administrator is to carry out, in the most effective way possible, the objectives of education. These objectives are often stated in terms of the impact of education on the child, the community, and society as a whole. Since the latter two effects are more difficult to assess, it may be possible to confine our investigation to the impact on the child. Does the administrator create conditions in which children in his school achieve, to the maximum of their ability, the aims of education; and do they continue to do this through the years, after they leave school?

Unfortunately, these considerations, despite their theoretical merit, have not been convertible into specific procedures in the present study. There is the recognition of the possible limitation of the study due to this factor. Perhaps future investigations will deal with the problem more successfully.

Values

The decision as to which criterion of effectiveness is most relevant to a specific case must be made by policy-makers rather than research workers. It is at this point of decision that the issue of values arises. Each school board or selection committee has not only the prerogative but also the obligation to select its own criteria of effectiveness. It is up to the selection group to decide what they want in an administrator: a good public relations man, an educational leader, someone who knows about building design, a good disciplinarian, or whatever.

The function of research is to provide reliable data from which these criteria can be obtained. If a board wants a man who will, for example, relate well to the teachers, research results should provide the information necessary to maximize the probability that the board will select, from among available candidates, the man most likely to achieve this goal.

A researcher may be of additional assistance by demonstrating that two of the board's criteria for its administrative candidates are in conflict. To take a hypothetical example, if the board asks for an administrator who will develop autonomous individuals among the students, and who will run a sound, traditional 3R school, it may be possible for a researcher to show that these two goals are generally in conflict -- therefore that the board's requirements of the administrator are unrealistic and should be reconsidered.

If the researcher feels that selection groups should always value a particular criterion more than others, he has every right to try to influence boards to this end. However, in his role as researcher this influence is limited to presenting evidence that if a particular criterion is used certain other desirable results occur. If he wishes to go beyond such influence he is, of course, free to do so, but he is then leaving his research role.

Summary

The measurement of administrative effectiveness should take into account the following considerations:

1) There are various criteria of administrative effectiveness, not just one. These criteria include both the results of administrative performance, and the administrator's behavior itself.

2) The administrator's job is to assure effective operation of his organization, which means recognizing and dealing completely with all functions of his group.

3) Accomplishing goals of the group is more important than assessing which specific people did what in order to reach the goals. Whether he does sime-thing himself or delegates it is irrevelant to evaluating an administrator's performance. The important thing is how well the job is performed.

4) However, his administrative performance should also be measured, even though it is not as direct a measure of his effectiveness as is the accomplishment of school goals, since he is more directly accountable for the former and it is usually easier to assess.

5) How accountable the administrator is for the performance of his school must be considered in evaluating his performance. Handling difficult situations effectively should be given more weight than handling simple situations.

6) Each function of an administrator may be evaluated from many frames of reference, that is, by many different observers. Each of these observers is important and should be included in the criterion measure.

7) Selection of criteria of effectiveness in any particular situation is a question of the values of the policy makers, the school board or selection committee. The research problem is to provide reliable data for making the selection decision.

8) A complete statement of an administrative evaluation takes the form:

> "Administrator A is rated E, relative to the best possible performance on criterion C by person (or group) P in situation S."

This section is concerned with the variables C, E and P -- the criteria, ratings of effectiveness, and raters. The raters, P (the administrator's interactors) were enumerated above. The following sections are devoted to a discussion of specific criteria of administrative effectiveness (the functions of administration), and measurement of administrative performance (effectiveness). Subsequent chapters will discuss A, the variables for describing administrators, and S, the situation in which he functions.

Functions of the Administrator

As the review indicated, the literature on administration and leadership is replete with lists of functions and different concepts of the leadership role. It is necessary to select from among the various approaches in order to provide a framework for the present study. As mentioned above, the approach used here is that of the "leader as completer" as described by Schutz (1961), which employs the FIRO theory of interpersonal behavior as a basis for describing a comprehensive list of functions of a leader. These derive from the assumption that a group has certain functions that must be fulfilled if it is to operate effectively, and that the role of the leader or administrator requires keeping these functions operating effectively.

In considering the school administrator's functions, it is necessary to explore the general aims of education and the role of the school in achieving them. This will provide a framework for describing the results that the administrator is expected to accomplish, on the assumption that all his efforts are aimed ultimately at attaining the goals of democratic public education.

Aims of Education

The concept of education underlying this project's selection of effectiveness criteria may be outlined as follows:

A. A democracy's aim is to provide a form of government that will lead to the greatest amount of satisfaction and productivity for the greatest number.

B. It is based on the principle that using the abilities of all its citizens will lead to this goal most effectively.

C. It emphasizes the ability and the right of each citizen to be free to determine his own destiny and be responsible for himself to the maximum degree possible without outside interference, and within the limits of his ability and maturity.

D. Public education is aimed at the accomplishment of these goals.

E. Therefore, the educational system should strive to produce citizens who realize their potential as fully as possible. All the abilities to think, to know, to do, and to create should be developed to the utmost (Counts, 1953; Dewey, 1916).

F. The school will achieve these general goals if, in the long run, it produces students who work up to their potential in the following areas, which define more specific educational goals:

1. Academic achievement. Each student within the jurisdiction of the administrator learns how to think creatively, logically and independently to the limit of his capacity, acquires as much useful, realistic knowledge of the world and himself as he is able, and acquires and develops as many useful skills as his capabilities permit.

The degree to which this goal is accomplished is often measured by standardized achievement tests. In order to estimate the potential of the student, this score is usually compared with a measure of "native intelligence", typically an IQ test. This comparison probably offers the best estimate available at this time.

2. Emotional adjustment. Each student within the jurisdiction of the administrator develops a stable, unconstricted, well developed personality such that he is not blocked in realizing and utilizing his abilities. His emotional life is rich and satisfying, he is capable of giving and taking love and understanding. He has a realistic knowledge of himself, and he can accept, be comfortable, and like himself with his own strengths and weaknesses.

Problems of measurement in this area are prohibitive. As yet there are available no satisfactory measures of degree of adjustment except for extreme behavior disorders and pathology. Probably the most reliable estimate would come from guidance and counseling personnel who have the best opportunity to observe the students and frequently are somewhat better trained to observe adjustment than other observers.

3. Social adjustment. Each child within the jurisdiction of the administrator is capable of coping effectively and living happily in the present-day world.

This again, is a most difficult characteristic to assess. However, there are indicators of anti-social behavior which may be considered as one symptom of lack of social adjustment, such as juvenile delinquency, truancy, and discipline records. On the positive side are indicators such as holding jobs successfully during vacation periods, and acceptance by fellow students (Pylinger and Grace, 1953).

4. Physical health. Each child within the jurisdiction of the administrator achieves the maximum physical condition allowed by his constitution. He is in good physical condition through adequate exercise and diet, and as free from disease and injury as possible.

Measurement in this area is more straightforward. From school medical records an evaluation can be made of the present state of health and of the trends toward health or illness during the administrator's tenure.

Although these four goals are extremely important ones, problems of measurement make them very difficult to use for the evaluation of administrative effectiveness. This is especially true when it is necessary to obtain data from a large number of schools. Testing and record keeping vary so greatly from school to school that obtaining reliable information for sizeable number of schools might not be possible. For these reasons no attempt was made to obtain these measures for the present project.

Utilization of Human Resources

The above goals will be accomplished best when all the human resources associated with the schools are utilized. This is similar to Barnard's (1938) concept of "efficiency".

The human resources available to the schools include five major groups, each of which makes a particular contribution: a) Community, including parents and other citizens. They must cooperate with the school in every reasonable way that can be worked out collaboratively between school and community personnel, taking account of the needs and desires of each. b) Facilitating staff, including administrators, business manager, custodians, secretaries, lunch room workers, gardeners, other administrators, nurses, etc., who must help to create an environment within which the best learning takes place, including maintaining an adequate physical plant, obtaining financial support, following administrative procedures that facilitate, contributing to the health of the students, etc. c) School board members, who must create conditions for maximal school growth. (They are a special case of both community and facilitative staff.) d) Teachers, including supervisors and consultants, must be of the highest caliber available and teaching to the best of their ability. e) Students, who must do their best to learn up to their capacities (Campbell, 1957).

In order to accomplish these goals, three factors must be mobilized: motivation, ability and opportunity. The administrator must create conditions under which the community is motivated to cooperate with the schools, the staff is motivated to develop the most helpful and effective facilitating services, the school board wants to use its position to obtain the best educational program possible, the teachers want to teach up to their capacities, and the students are inspired to learn up to their capacities.

Motivation alone is not sufficient, however. Once motivated, these groups must have enough guidance to know what to do and how to do it if the goals for which they are motivated are to be accomplished most effectively. Community members must be helped to understand the goals and needs of the school and the contribution they can make to their achievement. The staff must have access to the most effective methods of giving supporting service such as maintaining the physical plant, communication procedures, accounting methods, etc. The school board must be kept aware of all important events in the school system and in education in general. The teachers must have access to the latest teaching methods and training courses so that they may grow in ability and experience. The students must be taught how to learn, how to study, how to read, and other techniques that will lead to better learning.

Further, even if a person wants to do something and knows how, he must have the opportunity to do it. The administrator must create opportunities for these goals to be accomplished. The citizens must be allowed to cooperate and contribute to the schools, through invitations or responses to his offers. The staff must not be hamstrung by rigid regulations or excessive supervision. The school board must be allowed to exercise its prerogatives in determining policy. The teacher must be allowed to teach, and all distractions such as extensive extracurricular responsibilities, restrictions on teaching methods, pressures from parents, etc. must be minimized. The students must be given the opportunity to learn, through reasonable class size, non-constricting teaching, and a minimum of distractions.

Finally, personnel related to the schools have the right to obtain personal satisfaction from the schools. This is an obligation of every social institution. Society presumably profits in the long run from educated children, but it is also important that citizens, staff, board members, teachers, and students find satisfaction from the school experience itself. If this were not an obligation of school institutions, society could be a place where everything is frightfully efficient but people are miserable. It is true that people will probably be more efficient when they are happy, but in addition it is simply an important goal of society for people to be happy (Argyris, 1957).

Therefore, the administrator should create conditions that are personally gratifying to citizens, teachers, staff and students. If they conflict, the educational goals should be given precedence, but both are essential.

Table 1 summarizes the administrative functions discussed above. They will be considered in more detail in the following sections.

Table 1

Mobilization of Resources to Accomplish School Goals

Group	Goal for School	Motivation	Ability	Opportunity	Gratification
Community	Cooperation with school	Want to cooperate	Know how to help	Be allowed to help	School is a source of personal gratification in terms of personal recognition, meaningfulness, accomplishment, and personal pleasure.
Facilitating staff	Facilitation of teaching-learning activities	Want to aid teach-learn process	Know how to facilitate	Opportunity to facilitate	
School board	Establish and maintain quality educational program	Want to facilitate goal achievement	Know how to mobilize school and community resources	Be given necessary information and support	
Teaching staff	Best teaching possible	Want to teach well	Know how to teach well	Conditions helpful to teaching	
Students	Best learning possible	Want to learn up to capacity	Know how to learn	Be allowed to learn well	

The Community

The primary objective of the administrator with regard to members of the community is to elicit their cooperation. Community cooperation means that all community members living in the area within the jurisdiction of the administrator help their schools, to the reasonable limit of their time and ability, in accomplishing the goals of the school. This includes passing necessary bonds and taxes, serving on school citizens' committees, aiding the children by helping with homework, establishing supplementary classes, etc. (National Society for the Study of Education, 1954).

There are two approaches to assessing the administrator's success in eliciting this cooperation. Relatively objective indicators may be obtained by studying records of school bond and tax elections, participation on citizens' committees, parents' club activity, and other similar indicators. Secondly, community attitudes toward cooperation with the schools can be surveyed. This method is limited in that using such information to infer actual cooperation requires assuming that positive attitudes lead to constructive action. This assumption seems sufficiently tenable, however, to suggest pursuing this method of assessment further.

Since the school's success depends upon financial support from the community, cooperation from parents, etc., it is important for a school to maintain satisfactory relations with the community. The administrator is effective in this area to the extent that good community relations are maintained (Anderson, 1952).

In order to achieve optimal cooperation between the school and the community (indeed, between the school and any other group), the three aims mentioned above must be accomplished, namely:

1) Motivating community members to cooperate with the school.

2) Communicating to community members knowledge of what they can do to aid the school.

3) Allowing them an opportunity to cooperate.

There are three areas of relationship in which the community member (or facilitator, board member, teacher, student) has feelings about the school, in which he may have the ability and opportunity to cooperate, and from which he may derive personal gratification (see Schutz, 1958). The FIRO theory suggests that these areas comprise the importance of the school and its personnel, the competence of the school and its personnel, and the likeability of the school and its personnel.

Importance. One significant administrator function is to insure that the community appreciates the importance and significance of the school in community life. Since the schools will not be the most important aspect of the community to every citizen in terms of his own hierarchy of values, the job of the administrator is to present the school's case in such a way as to avoid overselling as well as underselling.

A citizen's feeling about the school's importance will influence the way he behaves toward the school. A community member's feeling that the school is of some importance will often result in his willingness to devote an appropriate amount of his time and energy to school affairs. It is then the administrator's function to work out with each citizen a realistic amount of time and energy to devote to the school, taking account of the importance of the schools to the citizen in his entire life hierarchy of values, the needs of the school that can be met by citizen participation, and the rewards to the citizen for devoting time.

If the importance of the school is undervalued by the community, the administrator will not have as much time available from the citizens as he could use. If the importance is overvalued, then the school will get more help than it can use, running the danger of disappointing and disillusioning those who later find that they have neglected other important aspects of their lives (for example, overactive parents who neglect their children).

After the time allocation has been worked out, it is, of course, important that the administrator allow an opportunity for the citizens to cooperate. This involves invitations, responding to citizen initiative, and general alertness to the timing of needs for community cooperation so that this cooperation may be maximally utilized.

Personal gratification for the community member comes through the recognition he receives for contributing to school activities. Just how rewarding such recognition is for a particular citizen depends upon his own need for it, and upon how much recognition is actually given to someone who devotes time to the schools.

Thus, to achieve optimally in the area of the school's importance for the community, the administrator should:

1. See to it that the community members have a realistic picture of the actual importance and significance of the school in the community life;

2. Work out with each community member the amount of time he can devote to cooperating with the schools in terms of the importance of the schools and his own hierarchy of values;

3. Allow an opportunity for each community member to devote the amount of time to the schools he is willing to;

4. Grant personal recognition for such cooperation.

The degree to which the administrator achieves these functions may be measured by items like those in Table 3 at the end of this section.

Competence. Community cooperation depends greatly upon respect for the competence with which the schools do their job, as well as community recognition of the school's importance. The administrator's function in this area of the school's competence is to maximize the community's feeling of respect for the quality of the job being done by the school in educating children, actually merited by the school's performance. Then he must attempt to convert this confidence into sharing responsibility for running the schools.

The administrator must bring about a realistic cooperative plan for running the schools based on the educational and professional ability of the school staff and the experience and special abilities of the community. In other words, the ideal relation between school and community results in the accomplishment of school policy and practice through the cooperation and integration of the best abilities available from both the school and the community.

Allowing the community too much influence in school policy leads to control of the curriculum by unqualified people, restriction of academic freedom of the teachers, and a loss of utilization of staff ability in influencing the curriculum. On the other hand, failure to allow the community sufficient influence leads to lack of cooperation in running schools, in helping students with homework, in establishing special programs outside school hours, in passing school taxes and bonds, etc. Such lack of cooperation also results from an unrealistically high evaluation of the ability of school personnel, leading to the assumption that they require no assistance.

Again, the administrator must provide ample opportunity for citizens to take on an appropriate amount of responsibility. For example, if a citizens' committee is appointed, it must then be given an opportunity to function and its recommendations considered seriously.

Personal gratification for community members for sharing responsibility for the school functioning comes from a feeling of accomplishment and recognition of their competence. For example, for many people there is reward in being selected on a citizens' committee, having it publicized in the local newspaper, and having the community know that their advice has been solicited. Similarly there are usually rewards for a job well done and influential in the school program.

In this area of competence the administrator does an optimal job to the extent that he:

1. Creates in community members a realistic respect for the competence of the schools and their personnel in accomplishing the educational goals;

2. Works out with community members the amount of responsibility it is appropriate for each of them to assume in making decisions regarding the schools;

3. Allows an opportunity for community members to take on an appropriate amount of responsibility;

4. Gives recognition for accomplishment and effectiveness.

The scale that may be used to assess the administrator's success in this area is given in Table 3 at the end of this section.

Affection. Even though a citizen may recognize and respect the schools, for various reasons he may not have much of a personal feeling for them. This may impair his willingness to participate in school activities. The administrator's function in this area is to maximize the community's liking and feeling of warmth and friendliness toward the school. Then he must see to it that this feeling of liking is translated behaviorally into support of school functions and school personnel.

The feeling of liking has as its behavioral correlate the general support for and feeling of identification with the school and its personnel. The administrator's role is to establish and maintain relations with citizens in such a way that the personal needs and desires of both school and community members are taken into account, and that school-community relations are carried out with these considerations in mind. These relations involve the feelings of school personnel for each other, of parents about their children and their children's welfare, pride in the school as a part of the community, etc.

Failure to elicit sufficient liking can lead to personal rejection and subsequent lack of personal gratification for staff, lack of community enthusiasm for school activities, and general lack of support. Too much liking by community members can result in interference with objective decision making through the influence of personal feelings. If community members become too involved with school personnel, it becomes more difficult to treat them equally in such matters as special consideration for their children, awarding contracts, etc.

To give the community an opportunity to like the school and its personnel, the administrator must be accessible to the community so that community members can come to know the school and its personnel well.

Community members derive personal gratification in this area through the rewards of close, personal relations, acceptance and affection, and the feeling of being "nice people". The actual relations formed with school personnel are in themselves rewarding.

Thus, in the area of affection the administrator does an optimal job to the extent that he brings about a realistic degree of liking among community members for the school and its personnel. Items to assess his success are found in Table 3.

Table 2 summarizes administrative functions with regard to the community, including the areas of importance, competence, and affection.

Table 2

Successful Results of Administrator Functioning in the Area of School-Community Relations

Function	Importance	Competence	Affection
	Community members:	Community members:	Community members:
Motivation	have a realistic feeling about the importance of the school.	have a realistic feeling about the competence of the job the school is doing.	have a realistic liking for the school.
Opportunity Provide	devote an appropriate and realistic amount of time and energy to the schools.	devote appropriate and realistic amounts of energy to helping with running of the school, through citizens' committees, responsible criticism, etc.	give appropriate and realistic support, identification and and friendship to the school and its personnel.
Prevent	don't lack time and energy to contribute to school (apathy).	don't lack cooperation in helping with school policy (abdicracy).	don't personally reject the school staff (hostility).
	don't clutter the time and energy of school personnel (interference).	don't interfere with autonomy and freedom of schools (domination).	don't expect decisions to be made on personal rather than rational bases (favoritism).
Personal gratification	have a feeling of recognition and importance	have a feeling of accomplishment and competence	have a feeling of being liked and being likeable.

Table 3

Use of Human Resources - Community - Scale

Scale Name: I am well motivated, guided, and given an opportunity to do my best for the schools.

Short Title: Use of Human Resources

Respondents: Parents and other members of the community

(All items are to be responded to with one of six numbers. See details of scaling in Appendix.) The numbers mean:

1. Definitely not true
2. Not true
3. Tends to be not true
4. Tends to be true
5. True
6. Especially true

ITEMS	Positive Categories	% Accept	Mean	S.D.
1. Opportunity is provided for me to contribute time to the school.	456	81	4.31	1.09
2. I really like the school and take pride in it.	56	74	4.89	.97
3. I really believe that I have an important part to play in helping the school achieve its educational goals.	56	71	4.74	.90
4. School personnel act very friendly and personal towards me.	56	64	4.73	.95
5. The principal gives recognition for the time and effort I spend.	56	50	4.37	1.05
6. I am kept informed as to how I may participate in making school policy and programs.	56	40	4.04	1.16
7. The schools give recognition whenever I make an important contribution to school policy and program.	56	33	4.05	.99
8. The schools allow me the opportunity to participate appropriately in school policy decisions.	56	27	3.74	1.11
9. The school is doing the best possible job of educating students.	6	16	4.40	1.13

Distribution:

% =	10.7	9.6	6.2	9.9	13.5	11.1	8.8	7.1	14.2	8.0
Score =	0	1	2	3	4	5	6	7	8	9

Reproducibility = .906(Quasi-scale)   Zero point = 1

The facilitative staff

The second important group of people with whom the administrator must maintain satisfying and effective relations may be called the facilitative staff. This includes all the people whose primary job is to facilitate the teaching-learning process. They are employees of the school but they are not directly engaged in classroom teaching. Their function is to expedite some aspect of the educational situation so that the teaching-learning process can be performed optimally. These people include assistant superintendents, vice-principals, business manager, cafeteria manager, etc. Supervisors and consultants usually fall between facilitative and teaching staff (Anderson, 1952). The board of education falls between the facilitative staff and the community and will be dealt with separately.

The term "administrative staff" is often used in the way that "facilitative staff" is used here. The latter term is used here to avoid confusion, and "administrator" is reserved for the principal and superintendent.

A good facilitative staff can have an enormous impact on the optimal functioning of an organization. Good administration is usually characterized by unobtrusiveness. The operational needs of the teachers should be satisfied in as convenient a manner as possible with the least involvement by the teacher. In other words, a good facilitative staff creates conditions under which teachers can concentrate all their efforts on doing the best teaching job. Poor facilitation results in teachers and students becoming embroiled in non-teaching activities, being blocked in their attempts to improve their teaching performance, becoming involved in unsatisfying and discouraging interpersonal frictions, confused by lack of coordination and integration, and generally prevented from accomplishing or wanting to accomplish the primary goals of the school.

Hence it is essential that the administrator acquire the best facilitators available and then create conditions leading to motivated facilitators who know how to discharge their jobs, have the opportunity to do it, and derive personal gratification from their work.

Objective measures of effective facilitative functioning include such things as balanced budget, presentable school plant, and generally the criteria used by Mort and his collaborators (1953).

Importance. Motivating the facilitator to see the importance of his job and therefore to devote sufficient time and energy to it is an important and often very difficult task. It is frequently difficult for a facilitative person to accept the importance of his position, since it is not the primary focus of the organization's activity. Frequently facilitators have been teachers and are caught in a conflict between teaching and facilitating. There may be little status given to facilitators by technical people, and they are sometimes used as scapegoats for organizational difficulties for which they are often not responsible. Further, they sometimes attempt to emphasize the technical side of their jobs even when their training or ability does not qualify them for a position of educational leadership. There is typically difficulty for a facilitator to accept the fact that there is a science as well as an art to effective facilitation. (In fact, this study is an attempt to make a contribution to that science.) For these reasons it is not a simple job to convince the facilitative staff of their significance.

The administrator's function is to work out with each facilitator the amount of time and energy that should be devoted to his duties, and to provide a sufficient opportunity for the facilitator to carry out his job consistent with the accomplishment of the primary educational goals. For example, if a supervisor wishes to present a demonstration to teachers, he should be freed from other duties for enough time to prepare and present it.

If the facilitator undervalues his job, he does not devote enough of himself to it and consequently the task suffers. If, on the other hand, he overvalues his job, he may tend to be overzealous and hinder the activities he should be facilitating, through rigid and uncompromising enforcement of regulations.

The gratification the facilitator derives comes from a feeling of personal significance and importance -- the knowledge that he is contributing to an important enterprise. This gratification comes partly from recognition from the administrator.

The effectiveness of an administrator in the area of facilitative staff relations can be measured by the degree to which he achieves these aims:

1. Facilitators have a realistic picture of the actual importance and significance of their jobs;

2. Works out with each facilitator the amount of time he can devote to his job in terms of his own needs and requirements and those of the school;

3. Allows opportunity for the facilitator to devote the appropriate amount of time to his job without unnecessary interruption;

4. Grants personal recognition to the facilitator.

These may be assessed by the items presented in Table 5 at the end of this section.

Competence. The administrator's role in the area of facilitator competence is to motivate the facilitators to want to perform their jobs with optimal efficiency, to guide them sufficiently to help them to attain this competence, and to allow them the opportunity to use their abilities on the job.

Here the administrator himself may have more technical competence than in other areas. He may thus be able to guide facilitators personnally more often, rather than delegating this job to others. Since he is himself an administrator, principles of organization, coordination, and other administrative or facilitative skills are usually well known to him. Motivation to do good facilitative work probably comes from example, and from the realization that good work does greatly facilitate the educational goal and is personally rewarding (Dubin, 1953).

The ability to exercise competent facilitative skills revolves around the issue of delegation. The most effective administrator allows his subordinates the most latitude in their areas of greatest competence. This requires an intimate acquaintance with the skills of his facilitators as well as with his own strengths and weaknesses. Governing his own activities is included in the facilitator competence area, in that the administrator must undertake those jobs for which he has the greatest personal competence and delegate the other jobs to those facilitators who are most competent to handle them.

Personal gratification comes to the facilitator from the feeling of a job well done. The administrator can contribute greatly to this feeling through rewarding excellence of facilitative functioning. Reward is probably best given through an efficient periodic evaluation system in which the facilitator is given a clear picture of how well he is doing his job, what his strong and weak points are, and how he may improve. Reciprocally, the facilitator is often more personally gratified if he, too, has an opportunity to express his feelings about his own performance and what he likes and doesn't like about the organization (including the administrator) and how it affects his own performance.

The effectiveness of the administrator is measured by the degree to which he achieves these aims:

1. Motivates facilitators to improve their administrative skills;

2. Enables them to learn to improve;

3. Gives them the opportunity to improve and to use their abilities;

4. Grants rewards for excellence, allowing for evaluation of their performance at periodic intervals.

These may be assessed by items like those in Table 5 following this section.

Affection. The administrator's job in this area is to maximize the facilitator's liking for his job situation. He may feel that it has significance and he may attain competence, but if he does not like the job situation, he may leave it, or at least lose motivation.

Failure to attain a sufficient degree of liking means that the facilitator's interest will wane. Too much liking for the job situation may lead to placing undeserved importance on the job and a lack of desire to leave it even if it is realistically appropriate.

Personal gratification for the facilitator comes from liking and being liked by the people with whom he comes in contact and from liking the job situation. A feeling of personal warmth from the administrator may contribute to this feeling.

In the area of affection the administrator does an optimal job to the degree that he:

1. Inspires facilitators to like their job situation and colleagues;

2. Expresses his own feelings of affection toward them.

These may be measured by items presented in Table 5.

Table 4 summarizes the administrator's functions with respect to facilitative staff in the areas of importance, competence, and affection.

Table 4

Successful Results of Administrator Functioning in the Area of Relations with the Facilitating Staff

Function	Importance	Competence	Affection
	Facilitators:	Facilitators:	Facilitators:
Motivation	have a realistic feeling about the importance of the facilitative function.	want to improve their facilitative ability.	are motivated to like the school and their jobs.
Opportunity Provide	devote an appropriate amount of time and energy to facilitating.	devote an appropriate amount of time to improving their knowledge and abilities.	have an opportunity to identify with and support the school.
Prevent	don't devote insufficient time and energy to school facilitation.	are not incompetent.	don't find their jobs and school a chore.
	are not overzealous in their evaluation of their significance.	do not put their own jobs disproportionately ahead of other school goals.	don't become unrealistically emotionally involved with their jobs.
Personal gratification	have a feeling of personal worth and importance.	have a feeling of accomplishment and achievement, and know where they stand.	have a feeling of being liked and likeable.

Table 5

Effective Use of Human Resources - Facilitators - Scale

Scale Name: I am well motivated, guided and given an opportunity to do my best.

Short Title: Use of Human Resources

Respondents: School board members, facilitative staff, principals

(All items are to be responded to with one of six numbers. See details of scaling in Appendix.) The numbers mean:

1. Definitely not true	4. Tends to be true
2. Not true	5. True
3. Tends to be not true	6. Especially true

ITEMS	Positive Categories	% Accept	Mean	S.D.
1. I try to inform myself about recent developments in education and take other actions which will help me do my job more effectively.	56	78	4.92	.68
2. I am allowed the opportunity to participate appropriately in school decisions.	56	72	4.84	.88
3. I am kept informed as to how I may participate in making school policy and programs.	56	66	4.67	.94
4. The superintendent gives recognition for the time and effort I expend.	56	63	4.61	1.01
5. Recognition is given whenever I make an important contribution to school policy and program.	56	53	4.47	.97
6. I am kept informed as to how I am doing at frequent intervals so that I know what needs improvement.	56	37	4.02	1.15
7. I have an important part to play in helping the schools achieve their educational goals.	6	33	5.20	.66
8. Opportunity is provided for me to contribute extra time to the schools.	6	27	4.91	.94
9. It is made clear to me how I can best help the schools.	6	19	4.78	.88

Distribution:

% =	9.5	14.3	6.6	7.8	9.0	14.3	13.0	5.3	5.4	14.2
Score =	0	1	2	3	4	5	6	7	8	9

Reproducibility = .907   Zero point = 0

The school board members

Although they actually are both community members and facilitative staff, the school board members will be mentioned separately since they occupy a unique role, especially for the superintendent. Since he is officially a professional employee of the school board, carrying out the policies passed by the board members who are typically laymen, the superintendent's relation with the school board requires a considerable degree of cooperation. All of the considerations outlined above for both administrator-community and administrator-facilitator relations apply to the superintendent-school board relationship.

The school board members responded to the same scale on use of human resources answered by facilitative staff (Table 5). In addition the special nature of the superintendent-board relations with regard to getting the school's work done was measured by a special instrument (Table 6). This instrument was responded to by the board members, the superintendent, and his staff members, to get a maximum of data.

Since this relation is so central, the interpersonal aspects were focused on in detail. This will be described below.

Table 6

Superintendent-School Board Relations Measure

Scale Name: The superintendent deals effectively with the school board.

Short Title: Board relations

Respondents: School board members, facilitative staff, principals

(All items are to be responded to with one of six numbers. See details of scaling in Appendix.) The numbers mean:

1. Definitely not true	4. Tends to be true
2. Not true	5. True
3. Tends to be not true	6. Especially true

ITEMS	Positive Categories	% Accept	Mean	S.D.
1. The superintendent keeps the board informed of possible problems so that they can act in time.	56	81	5.06	.81
2. The superintendent acts as though he has little faith in the board's ability to deal with instructional problems.	12	74	4.82	1.00
3. The superintendent is overly aggressive in his approach to baord members.	12	70	4.75	.88
4. The superintendent will not defend his beliefs and ideas if the board seems to disagree with him.	12	61	4.57	1.09
5. The superintendent readily makes available to the board information that it requests.	6	44	5.29	.78
6. The superintendent is cooperative in his dealings with the board.	6	40	5.24	.78
7. The superintendent is willing to defend his position on issues when he feels he is right.	6	33	5.09	.85
8. The superintendent carries out board policies even if he is opposed to them.	6	29	5.09	.75
9. The superintendent suggests reasonable policies for the consideration of the board.	6	18	4.95	.71

Distribution:

%	=	12.5	8.3	5.9	10.1	19.6	3.7	9.5	4.4	10.2	15.2
Score	=	0	1	2	3	4	5	6	7	8	9

Reproducibility = .926 Zero point = 0

The teachers

The teachers are the school's technicians. They are the key persons in the teaching-learning process around which the educational system is built. An essential element of learning is that a student must learn from someone. The competence of a teacher is obviously vital to the success of the school. Competence includes knowledge of subject, skill in teaching, and adequacy as a person. Educational controversies seem often to evolve from over-emphasis on one of these to the detriment of others. It seems that often the importance of the teacher as a well-integrated, rich, vital, curious, independent person is ignored when teaching standards are considered. In some ways it could be argued that a teacher teaches more through what he is than through what he says.

The administrator must strive to create an atmosphere in which all three requirements for a teacher are facilitated -- good knowledge of subject matter, good teaching ability, and a well actualized personality. It is the administrator's responsibility to see that all the teachers within his jurisdiction are the best available and are effective to the limit of their capacities.

It is very difficult to measure effectiveness in this area objectively. Probably here it is more feasible to rely on a survey of attitudes and feelings of the teacher and others to determine the success with which optimal conditions are being created. The basis for such a survey follows, again in terms of the areas of importance, competence, and affection.

Importance. Motivating the teacher to see the importance of his job and therefore to devote sufficient time and energy to it is a primary responsibility of the administrator. Many teachers enter the profession with high motivation and require little from the administrator in this area. However, many teachers do not place their job high in their value hierarchy; for example, for many women their job is just a means of support until they get married, and for many men it is simple a stepping stone to administration. It is especially important to motivate these teachers.

The administrator's function is to work out with each teacher a realistic amount of time and energy to devote to teaching duties, in terms of the needs of the school and of the teacher. He should also provide the opportunity for that time to be devoted to teaching; teachers should be free of duties that impose on time that should be devoted to teaching functions.

If the teacher undervalues his job, he will not devote enough time and energy to it and will thus not produce up to capacity. If he overvalues the importance of his job and function, he may overwork to the detriment of the rest of his life activities and even his health. It is important for the administrator to encourage a realistic picture and to discourage these extremes.

The personal gratification the teacher derives in this area comes from a feeling of personal importance and significance. He receives this partly from the administrator's attention and interest in the teacher as an individual.

The effectiveness of the administrator here may be measured by the degree to which he achieves these aims:

1. Assures that teachers have a realistic picture of the actual importance and significance of teaching;

2. Works out with teachers the amount of time they can devote to teaching in terms of their own needs and the requirements of the school;

3. Allows opportunity for the teacher to devote the appropriate amount of time to teaching;

4. Grants personal recognition to the teacher.

The administrator's success in these respects can be assessed by the scale presented in Table 8 following this section.

Competence. The administrator's function with respect to competence is to motivate teachers to want to achieve competence in their profession, to show them how to improve, and to provide an opportunity for such improvement.

The administrator should work out with teachers a realistic level of competence they can be expected to achieve and maintain. Periodic evaluations are essential to keep each teacher informed about the degree to which he is achieving what is expected. Then the teacher must be given the opportunity to learn and to improve his teaching ability.

If the teacher achieves too little, he is an incompetent teacher. If he works too hard at becoming more competent, he may do it at the expense of other aspects of his life.

Personal gratification comes to the teacher in this area from the feeling is enhanced by the administrator's recognition of his achievement.

The administrator's effectiveness is measured by the degree to which he achieves these aims:

1. Motivates teachers to improve their teaching abilities;

2. Enables them to know how to improve;

3. Gives them an opportunity to use their abilities and to improve them;

4. Grants recognition for excellence, giving informative evaluation.

These may be assessed by items like those in Table 8.

Affection. The administrator's job in this area is to maximize the teachers' liking and feeling of warmth toward teaching and toward the school. Such a feeling leads to identification with the school and the goals and to a greater acceptance of school activities.

Failure to attain a sufficient degree of liking means that the teacher will regard teaching as just a job, and probably that he will find many petty things annoying. Too much liking for the school may lead to excessive emotional involvement and identification with school activities, with accompanying feelings of, for example, inappropriate personal rejection when the schools are criticized.

Personal gratification for the teacher comes from liking and being liked by the people with whom he comes in contact. Feelings of personal warmth from the administrator are helpful.

Thus, in the area of affection the administrator does an optimal job to the extent that he can help teachers to like their school, job, and colleagues. Items to assess his success are found in Table 8.

Table 7 summarizes the administrator's functions with respect to teachers in the areas of importance, competence, and liking.

Just as the superintendent-school board realtion is especially close and intricate so is the principal-teacher relation. For this reason the interpersonal aspects of it will be explored in detail. This exploration is described below.

Table 7

Successful Results of Administrator Functioning in the Area of Teacher Relations

Function	Importance	Competence	Affection
	Teachers:	Teachers:	Teachers:
Motivation	have a realistic feeling about the importance of education and of teaching.	want to improve their teaching ability.	are motivated to like the school.
Opportunity			
Provide	devote an appropriate amount of time to teaching.	devote an appropriate amount of energy to improving their knowledge, skill and being.	have an opportunity to identify with and support the school.
Prevent	don't devote insufficient time to schools.	are not incompetent.	don't feel that everything is an annoyance.
	don't narrow their outside activities excessively.	don't put too much stress on overachievement or feel anxious about it.	don't feel excessive emotional involvement and identification.
Personal gratification	have a feeling of personal importance, worth and meaning.	have a feeling of accomplishment and achievement, and know where they stand.	have a feeling of personal likeability.

Table 8

Use of Human Resources - Teachers - Scale

Scale Name: I am well motivated, guided and given an opportunity to do my best.

Short Title: Use of Human Resources

Respondents: Teachers

(All items are to be responded to with one of six numbers. See details of scaling in Appendix.) The numbers mean:

1. Definitely not true	4. Tends to be true
2. Not true	5. True
3. Tends to be not true	6. Especially true

ITEMS	Positive Categories	% Accept	Mean	S.D.
1. Recognition is given whenever I make an important contribution to school policy and program.	3456	89	3.94	1.14
2. Opportunity is provided for me to contribute extra time to the school.	456	85	4.52	1.13
3. I really like the school and take pride in it.	56	74	4.91	.98
4. Recognition is given for the time and effort I expend.	456	70	3.95	1.25
5. I am kept informed as to how I am doing at frequent intervals so that I know what needs improvement.	456	62	3.01	1.32
6. The principal helps me to do the best possible job of educating students.	56	40	4.10	1.20
7. I am kept informed as to how I may participate in making school policy and programs.	56	29	3.78	1.17
8. I am allowed the opportunity to participate appropriately in school policy decisions.	56	27	3.75	1.18
9. The principal makes clear to me how I can best help the school.	6	11	4.21	1.17

Distribution:

% =	5.5	4.8	9.5	9.9	11.3	19.4	11.7	7.0	13.2	7.2
Score =	0	1	2	3	4	5	6	7	8	9

Reproducibility = .928 Zero point = 4

The students

Similar remarks to those made for community, teachers, and facilitators may be made about the importance of motivating, guiding, and allowing the students to realize the importance of being students, of studying hard and doing their best, and liking the school and the role of student (Anderson, 1952). Since this study will not investigate student reactions, this area will not be elaborated.

Functions of the administrator have now been described, and some instruments for measuring the success with which these functions are accomplished have been presented. The next level of administrative activity available for assessment will now be considered: The kinds of behavior on the part of the administrator that lead to success in motivating, guiding, and allowing the relevant groups to contribute optimally to the school aims.

As the earlier review indicated, the primary behavior areas in administrative performance are interpersonal effectiveness and task ability. How well the administrator motivates others is usually a function of his behavior and feelings toward them, and of theirs toward him. If they like and respect him, and if he has a generally satisfactory relation with them, they will probably be influenced to cooperate in accomplishing school goals.

The administrator's ability to guide others successfully is primarily a function of his technical knowledge and administrative ability. He must have abailable information as to what to do and how to do it, and he must have the necessary administrative skills to organize, coordinate, and integrate activities so that they are accomplished optimally.

Task Effectiveness

This section and the next one on interpersonal effectiveness involve direct assessment of the administrator's performance rather than of the result of his performance as in the criteria discussed above. The two major areas of performance are task or problem-solving behavior, and interpersonal behavior. Some of the administrator's activity is directed at accomplishing the goals of the school and some at maintaining his organization through successful relations among the people involved in goal accomplishment.

An administrator may be evaluated on the degree to which he accomplishes his technical and administrative goals. Within the administrator's job there are things he must know and do which are specifically administrative. That is, there is a body of knowledge and skill about both education and administration that an administrator must have available in order to do his best job and to guide others effectively.

Survey of the literature revealed six major areas of administrative skill.

a) decision-making ability: the general ability to make sound, well-thought-through decisions about all problems facing the administrator;
b) organizational ability: using school resources optimally;

c) school maintenance ability: the ability to support and facilitate the teaching-learning activities through such procedures as budget balancing, upkeep of school plant, coordination of activities, dissemination of information, and selection of personnel;
d) technical knowledge of educational administration: knowledge of school law, school finance, school building, history of education, and other subjects basic to good decision making in educational administration;

e) communication skills: maintenance of open communication channels for the expression of opinion and feeling among school personnel;
f) educational leadership: openness to and encouragement of further training and innovation in education.

The first two areas, decision-making and organization, have been the subject of much recent scientific investigation under the names of decision theory and organization theory. For this reason discussion of these two will be more extensive in an attempt to apply these recent developments to the present problem.

Decision-making ability

The literature on scientific method and decision theory provides a basis for a paradigm of good decision making applicable to the administrative situation. A model of ideal decision-making behavior may be constructed, to which actual decision decision-making behavior can be compared. This model applies to any decision procedure. (Chernoff and Moses, 1959)

1) Statement of problem. The administrator should anticipate, recognize, and state clearly the problems of the school system that must be solved in order to attain the objectives of the school. He must organize his school unit in such a way that problems are identified in sufficient time to mobilize the best forces available to solve the problem. Problems for the school unit include all those that affect the attainment of school objectives.

An administrative mechanism should exist for the recognition of problems in all content areas of school-community relations, board relations, staff relations, and the educational program. For example, budget requirements should be worked out in time for bond or tax elections, teaching methods should be evaluated in time for the school year, etc.

2) Collection of data. An administrative procedure should exist for collecting the best available data relevant to any given problem. This involves coordinating and integrating the efforts of the people best qualified to provide information on a particular problem. Such data include any relevant evidence from research, personal experience, or any other source related to potential solution of the problem. Accurate, complete information must be available.

A characteristic of many administrative decisions is that data collection is interdependent with assessing the consequences of various courses of action, since problems require solutions that will satisfy over-all objectives of the schools. In other words, they are often "systems" problems in that one course of action may affect a number of activities. For example, trying an experimental method on one class may be expected to improve teaching, but it may also antagonize parents and arouse jealousy in other classes. Thus, there must be good integration among the various segments of the school system.

3) Alternative hypotheses. In order to find the best solution to a problem, all possible solutions should be listed as hypotheses. These are usually derived interdependently with data collection; some data may suggest a hypothesis which in turn requires that further data be collected. For example, when a parent complains that a child is not reading fast enough, two hypotheses may be: a)teacher is incompetent; b)parent is pressuring child too much. Each hypothesis suggests the collection of further and perhaps different data. The first would suggest finding information about the teacher in other classes; the second would suggest finding out about other children of the parent or interviewing her again.

4) Courses of action. All the actions that might be taken by the administrator to solve the problem must be considered. For example, in the above instance the administrator might move the child, leave him alone, talk to the teacher, reprimand the parent, or give the child special instruction.

5) Outcomes of actions. The probability of a particular outcome of each action is partly a function of the hypotheses. For example, moving the child will have the outcome "child's reading improves" if Hypothesis 1, "teacher is incompetent", is true. However, if Hypothesis 2, "parent is pressuring child too much," is true, then moving the child will have the outcome, "no change". The probability of each outcome for each course of action should be considered.

6) Desirability of outcome. Each outcome is rated for desirability according to the various functions of the school. For example, telling the parent to stop pressuring the child may lead to a highly desirable outcome with respect to the goal "have children learn," but to an undesirable outcome with respect to the public relations goal if the parent is offended.

7) Desirability of goal. Each goal is rated for relative desirability. In the example above, if "children learn" is a more highly valued goal than "public relations," then telling the parent is all right. The administrator must have a clear notion of his hierarchy of goals for the school.

8) Decision. There are several methods of resolution, depending on whether or not the administrator is conservative or adventurous. He may compute (informally) for each possible decision, the probability times the desirability of every outcome and choose the decision with the highest score; or he may choose to minimize his maximum loss by selecting the decision for which the worst possible outcome is least bad. Or he may choose the first solution he thinks of that is satisfactory. In other words, the administrator has available several decision-making procedures and chooses one in accord with his own values and situation.

9) Test of decision. After the decision has been acted on, it should be followed up to see if it really worked. The next time a similar problem arises, the administrator will then have this information available.

Using this model for decision making, the ideal problem-solving behavior of a school administrator may be described as follows:

1. Administrator anticipates problems; plans for the future; organizes his staff and resources so as to meet future events most effectively.
2. Recognizes problems when they occur; sees them clearly and can present them clearly to others.
3. When problems arise, the administrator conscientiously gathers all available information relevant to solving the problem; he makes sure to hear all sides before making a decision.
4. When confronted with a complaint or a claim by someone, the administrator checks into the source of the assertion to determine its reliability.
5. The administrator is creative and imaginative in getting to the reasons behind problems; he often can sense things going on that most people miss.
6. He is flexible in being able to accept many possible explanations or problems that arise in the school.
7. He is creative in thinking of many approaches to solving a problem in addition to the usual methods, which he knows well.
8. When deciding what action to take, the administrator usually considers all possibilities before choosing one, rather than doing the first thing that occurs to him.
9. The administrator is aware of possible effects of his actions on others; he is able to anticipate people's reactions accurately.
10. He is well enough informed about the total school situation to be aware of all the implications of his actions.
11. He knows the goals of the school and has a clear idea of which goals are more important than others -- the hierarchy of educational values.
12. He is able to communicate the goals and objectives of the school to the staff and the community so that there is no ambiguity about what the school is trying to achieve.
13. He is not easily swayed by pressures that would interfere with accomplishing the goals of the school; he sticks with his convictions.

14. He is not unduly rigid about adhering to his ideas if the reality of the situations suggests change.

15. The administrator's decisions are reasonable, not unjustifiably wild or bizarre.

16. His decisions are also reasonable in not being overly conservative, overly safe, nor unimaginative.

17. The administrator follows up his decisions to see if they worked, so that he can profit from this knowledge; this includes evaluating all types of decisions.

The degree to which an administrator follows this procedure may be measured through a scaling procedure. For this study, items were constructed to determine whether or not each step of this procedure is carried out well in the administrator's school. These items were then scaled according to the Guttman method, and a nine-item scale emerged. This scale, given in Table 9, constitutes the measure of decision-making ability.

Table 9

Administrative Decision-Making Scale

Scale Name: The principal facilitates the efficient solution of school problems.

Short Title: Problem-solving

Respondents: Parents and other members of the community

(All items are to be responded to with one of six numbers. See details of scaling in Appendix.) The numbers mean:

1. Definitely not true
2. Not true
3. Tends to be not true
4. Tends to be true
5. True
6. Especially true

ITEMS	Positive Categories	% Accept	Mean	S.D.
1. Unique possible solutions are considered for school problems.	456	88	4.34	.94
2. Possible solutions to a problem are weighed carefully.	456	87	4.21	1.00
3. All relevant information is obtained before decisions are made.	56	51	4.47	.83
4. Sources of information are weighed carefully.	56	51	4.47	.86
5. Situations in the school where real problems exist are recognized and acknowledged.	56	54	4.52	.80
6. Solutions, once agreed upon, reflect critical and logical thinking.	56	45	4.38	.84
7. Consideration is given to the important implications of a course of action.	56	43	4.33	.85
8. All the elements relating to problems or issues are taken into account.	56	35	4.09	.99
9. Possible problems or issues are anticipated.	6	12	4.54	.97

Distribution:

% =	8.9	3.3	27.4	5.7	3.8	7.9	7.1	10.2	16.9	8.4
Score =	0	1	2	3	4	5	6	7	8	9

Reproducibility = .921 Zero point = 2

Organizational ability

Before proceeding to the discussion of specific measures of organizational ability it will be useful to discuss briefly some recent theoretical approaches to the study of organizations and of organizational leadership. This discussion will lead to a description of the ideal organization and ideal patterns of organizational leadership in order to have a yardstick against which to measure any existing organization.

The study of organizations may be approached from a number of vantage points, each of which involves a set of assumptions about the nature of human behavior. These assumptions provide a reasonable basis for choosing among competing approaches. March and Simon (1958) have summarized them as follows:

a) Classical organization theory: (e.g. Taylor, 1947; Gulick and Urwick, 1937). The members of the organization are primarily passive instruments, motivated only to secure maximum possible earnings.

b) Personality-centered approach: (e.g. Argyris, 1958). The members of the organization bring with them attitudes, values and goals which are usually incongruent with the goals of the organization. They must be motivated to participate in the organization.

c) Decision theory: (e.g. March and Simon, 1958; Rapoport, 1959). The organization member is a "choosing, decision-making, problem-solving organism" or a "complex, information-processing system". The emphasis is upon perceptual and cognitive factors.

The classical theory may be rejected if only for its simplistic motivational assumptions. The Hawthorne studies (Roethlisberger and Dickson, 1939) have shown conclusively that the classical notions are inadequate to account for the behavior of persons in organizational settings. The choice among the remaining two approaches is more difficult. While avoiding simplistic explanation, they rely perhaps too heavily upon rational factors to the relative neglect, if not exclusion, of more irrational tendencies. Neither rationality nor irrationality can safely be disregarded if one is interested in a realistic description of behavior in complex settings. Since these approaches are also deficient in other respects, especially in their neglect of the role of the larger environment surrounding the organization, they cannot be adopted for the present purpose without modification.

A convenient point of departure is the conflict between the aspirations of the individual and the goals of the organization. Argyris (1958) makes this conflict central to his analysis. Since the joining of any group implies giving up some individual freedom, it must be assumed that the group provides returns not available to the individual as an individual. As Haire (1959) has phrased it, it is the "calculus of balance" which needs to be worked out and which constitutes the problem for organization theory. Argyris (1961) sees the formal organization, based on "classical" principles, as a grand strategy to organize human effort in order to achieve specific organizational goals. The goals of the individual are subordinated to those of the group. The individual is required by this system to experience dependence and submissiveness, he uses only his peripheral abilities, his interests remain unengaged. The individual who strives for independence responds to organizational demands with absenteeism, turnover, union activity, apathy, an emphasis on material rewards, and becoming increasingly dependent, submissive and alienated. In short, he engages in a set of informal activities designed to "beat the system". The administrator views these informal activities as reactions of "irresponsible" employees rather than as the unintended by-products of organizational restraints. He reacts, therefore, by increasing the restraints which in turn functions to increase the defensive, informal activities of his subordinates. This feedback mechanism deepens the basic conflict rather than alleviates it. Such a state of affairs has adverse consequences not only for the individual but also for the achievement of organizational goals.

The ideal organization. The ideal organization provides a model to which any given empirical organization may be compared to ascertain its degree of "axiological goodness". The ideal organization may be defined as follows (adapted from Argyris, 1961):

1. Direction. Each part of the organization has some influence over central activities, as distinguished from the "classical" condition where one part (the boss) controls the whole.

2. Awareness of structure. The organization is perceived as an organic whole rather than as a series of fragmented, unrelated parts. The classical condition is exemplified by organizations where each department is a "kingdom unto itself", anxiously defending its prerogatives against outsiders, i.e. the department next door.

3. Flexibility. The axiologically good organization is characterized by absence of compulsive activities which, once set in motion, persist unresponsive to changed external and internal demands. It is capable of modifying its structure and activity in response to changing conditions.

4. Creativity. Effective problem-solving, a creative approach to new and old problems, is unfettered by blind prejudice and irrational blocks. In this connection, Haire (1959) states that the perennial conflict between organizational and individual goals is not necessarily deleterious. In fact, he feels, it may generate the "divine spark of discontent" which protects from rigidity of thinking, and leads to innovation and change.

5. Perspective. The nature of the organization's central activities is not determined by the present alone, not grounded only in the immediately pressing problems of the day but are informed also by the lessons of the past and the prospects of the future.

The "good" organization is one that promotes self-actualization of the individual and the effective achievement of organizational goals, rather than accomplishing one at the expense of the other, or, worse, neither of the two.

Organizational leadership. It is clear that the nature of leadership profoundly affects organizational functioning. It must be realized first that the style of leadership, in order to be most effective, must be adapted to changing circumstances, must be allowed to vary according to changes in the problems confronting the organization. This is the requirement for flexibility.

Ever since Lewin, Lippitt and White (1940) published their dramatic findings on leadership styles, showing the apparent superiority of the democratic form of leadership over both the autocratic and laissez-faire approaches, well-intentioned social scientists have claimed these findings as scientific confirmation of their ideological convictions. However, the results of Lewin, Lippitt and White possess none of the generality we may want to attribute to them. The experiment seen in perspective is an exceptionally clear-cut example of the classical "defining experiment": carried out in a boy's club with sixth graders producing toys as a hobby activity, the findings were generalized to widely differing situations (industrial, military), subjects (adults, soldiers, assembly-line workers) and leaders (originally specially-trained research assistants, now any "leader" whatever). Since this experiment, other investigators (e.g. Shaw, 19) have shown that autocratically-led groups perform better under some conditions and Fiedler (1960) demonstrated for several different kinds of groups that psychologically-distant leaders are more effective in task groups than leaders tending toward warm interpersonal relations. The indications are, then, that leadership style must be flexibly adapted to the nature of the particular task on hand, to the particular problem at issue. For example, little is to be gained from employing democratic consultation with respect to routine decisions which do not engage the self-concern of the follower. Autocratic leadership suffices. Similarly, in the face of crisis, democratic procedures may well be suspended to gain maximum flexibility and speed of response.

Argyris (1961) has proposed four kinds of organizational strategies or types of leadership to be used concurrently as varying conditions require. The rules specifying when to use a given strategy are to be formulated by participation.

1. Classical organizational strategy. This form is appropriate under three conditions: when fast decisions are crucial, when only a few members have the required information, when decisions do not affect the individual's personal concerns. It is important to note that such a strategy assumes rationality and the willingness to be occasionally submissive and dependent.

2. Modified classical structure. Here the leader acts as the representative of his group vis-a-vis superiors and his own peers. Management listens, but still makes the final decision.

3. Functional strategy. Leadership and power are vested in those individuals who are capable of making the greatest contribution to the solution of a given problem. This is essentially leadership by experts, but only for decisions falling within the area of competence of the individuals selected. And the "leaders" change as the problem changes.

4. Strategy for basic decisions. For decisions maximally involving the individual such as those affecting basic rewards and punishments, equal power and responsibility is to be shared by all members of the organization.

These are the ideal conditions for effective organization and leadership and, in a sense, the criteria by which the effectiveness of organizations and their leaders may be assessed.

From these considerations a model for an ideal organization was evolved for use in the present project. It is based on Argyris' functional strategy applied throughout the organization structure, since this strategy really incorporates the others. That is, if each decision is made by those most qualified, then if it is appropriate for one person to make a particular decision, or for the entire organization to participate, that will be the appropriate functional strategy.

The decision-centered organization. Not only must an administrator create an atmosphere in which the abilities of each of the individuals involved with the schools is maximized, but he must also provide a framework for organizing and integrating these individual talents. The administrator's task is to mobilize these diverse abilities in such a way that the best talent available within his organization is utilized for the solution of each of the problems that arises in the school system. For example, if the administrator's problem is to order the best mathematics textbooks, the school system should be organized in such a way that it is possible for those teachers, consultants, parents and perhaps even students who have the most information about math texts and who are in the best position to select (i.e. have the most ability to decide), to be the ones whose opinions are most influential is the final decision.

This approach to integration of school elements implies that an organizational structure is primarily a decision-making device. It is a method of organizing resources for the purpose of optimal problem solving. The first step toward deciding on the best organization is to list and classify the types of decisions the system will be called upon to solve. Decisions are classified by the people and structure required to solve them (structure means the pattern of decision-making power). Decisions can then be placed into classes such that all decisions in a given class are best solved by the same organizational structure. The pattern of decision-making structures and problem classes generates the structure of the organization.

The Organization scale for measuring this ability is based upon the assumption that the most effective administrator is one who delegates the solution of problems to the person best qualified to deal with a particular problem rather than one who attempts to solve all problems exclusively with his own resources. The effective administrator thus arranges to have qualified persons available and ensures their maximum motivation for the task on hand. The organization scale is presented in Table 10.

Table 10

Organization

Scale Name: The superintendent organizes activities so as to obtain maximum benefit from district resources.

Short Title: Organization

Respondents: School board members, superintendents, principals

(All items are to be responded to with one of six numbers. See details of scaling in Appendix.) The numbers mean:

1. Definitely not true	4. Tends to be true
2. Not true	5. True
3. Tends to be not true	6. Especially true

ITEMS	Positive Categories	% Accept	Mean	S.D.
1. The needs and desires of the staff are not perceived.	123	86	4.39	.98
2. Wise use is made of people who do things well.	56	55	4.60	.81
3. It is made clear to groups or persons asked to make recommendations whether their work will become policy or simply be considered as advice.	56	50	4.46	.83
4. Things are well planned so that they are accomplished on time.	56	47	4.44	.89
5. People who will be affected by a decision are involved in the process of reaching it.	56	38	4.25	.86
6. Staff members know the reasons underlying decisions.	56	44	4.35	.93
7. Too many important decisions are made which fail to involve enough people in the process.	12	42	4.21	.97
8. Efforts are made to hire the best people available for each position.	6	27	5.02	.83
9. Routine use is made of the best informed people on the staff for solving problems.	6	15	4.56	.96

Distribution:

% =	8.3	26.3	8.9	9.0	7.7	4.7	4.1	13.8	6.8	9.9
Score =	0	1	2	3	4	5	6	7	8	9

Reproducibility = .875 (Quasi-scale)   Zero point = 1

School maintenance ability

An important part of an administrator's job is to maintain the school plant and program. A large amount of time, energy, and skill are required to insure the continued availability of the educational institution through such things as providing adequate teaching materials, supervision, scheduling of school activities, system of discipline, building maintenance, and so on.

This skill is assessed by the school maintenance scale presented in Table 11.

Table 11

School Maintenance

Scale Name: Matters such as schedules, assignments, building maintenance, availability of teaching materials, and establishing plans and systems for doing the school's work, are well taken care of.

Short Title: School Maintenance

Respondents: Teachers

(All items are to be responded to with one of six numbers. See details of scaling in Appendix.) The numbers mean:

1. Definitely not true
2. Not true
3. Tends to be not true
4. Tends to be true
5. True
6. Especially true

ITEMS	Positive Categories	% Accept	Mean	S.D.
1. Adequate materials needed for instruction are available.	3456	91	4.17	1.16
2. Adequate help and supervision are provided for teachers.	3456	86	3.78	1.19
3. An effective system of guidance for the pupils is supported and maintained.	3456	74	4.05	1.13
4. An effective system of pupil discipline is supported and maintained.	3456	74	4.12	1.32
5. Buildings and grounds are maintained in a satisfactory and attractive manner.	3456	62	4.56	1.15
6. Schedules required for the effective operation of the school are made.	3456	59	4.56	.90
7. Extra-curricular activities are organizes so that they function smoothly.	3456	41	4.21	1.06
8. Teachers are not overloaded with non-teaching assignments (Hall duty, yard supervision, etc.)	3456	32	3.74	1.38
9. There is an adequate system for reporting the progress of pupils to their parents.	3456	12	4.59	.95

Distribution:

% =	4.8	4.6	7.7	6.6	12.7	9.7	14.5	16.6	15.7	6.7
Score =	0	1	2	3	4	5	6	7	8	9

Reproducibility = .904   Zero point = 4

Technical knowledge

In order to do the best job of coordinating the work of the various school-related groups, there are several areas of substantive information the administrator must have at his disposal.

With regard to community relations, he must know about community structure, the formal and informal political structure, the ethnic and religious distribution and traditions, etc. In other words, the administrator should be familiar with urban or rural sociology, other sociological topics related to community functioning, political science, and social psychology.

Relations with teachers and with students requires a thorough grounding in current educational methods, the teaching-learning process, and some acquaintance with the subject matter of the basic courses. Central to an understanding in this area is a knowledge of group and individual psychology in order that he will be able to understand the dynamics of classroom behavior and emotional and intellectual blocks to learning.

Facilitative duties require a knowledge of the bases for administering a public educational institution such as school law; finance; federal, state, and local organization; personnel; building; etc. A knowledge of basic economics, accounting, and government would also be important.

Thus the technical knowledge required of a school administrator to supplement his problem-solving ability, administrative skill, and interpersonal effectiveness includes: Community sociology; political science and government; individual, group, and social psychology; economics and accounting; and specific school-related topics such as school law, finance, and organization.

The administrator need not know all these things himself, but he should know where to find out what he does not know.

This kind of knowledge can be measured by a standard information test covering the areas as they relate specifically to educational administration.

The test given in the present study to California educators is given in Table 12. Of course, it would have to be revised and adapted to different groups and places if it is to be used for selection or evaluation of administrators.

Table 12

Technical Knowledge

For each item below, place a 1 in the appropriate space if it is true, and a 2 if it is false:

1. True 2. False

Most states have established the county as the local school district.

Education has developed as a state function as a result of the interpretation of the tenth amendment to the Constitution.

The state board of education members in California are elected.

The powers of the school district are delegated to it by the state.

There are fewer than 100 unified school districts in California at the present time.

A local school administrative unit and an attendance area are usually coterminous.

The intermediate unit has been created by state action as a political subdivision of the state.

Adequate teaching pay is shown by studies to be the most important factor in teacher morale.

A teacher retirement plan and a pension plan are synonymous.

The Federal Constitution protects a teacher on tenure under the obligations of a contract.

Conant, in his book "The Public High School in America," recommends a student load of 100 pupils per English teacher in the senior classes.

The Supreme Court has ruled that the flag salute is a condition of school attendance.

Immunizations may be required as a condition of school attendance.

Individual differences in ability within a grade or class are less in the case of language and composition than in any other school subject.

Generally a larger number of pupils on an age-grade table are over-age than are under-age.

Corporal punishment of pupils is general prohibited by state law.

The law requires the health department, rather than the schools, to be the agency primarily concerned with the daily health of children in school.

The board of education may not require a child to be vaccinated if his parents object.

Table 12 (cont.)

1. True 2. False

Instruction in the public schools which relates to moral and spiritual values is prohibited by a decision of the United States Supreme Court.

Laws and recent court decisions uphold the authority of the teacher in matters of school discipline.

A decision by the United States Supreme Court becomes applicable to a state when the state has constitutional provisions in harmony with that decision.

Local school officials have certain rights which cannot be withdrawn or altered by constitutional or legal provisions.

Legally, the board of education is primarily a legislative and policy-forming body rather than an administrative body.

The original cost of a school building is a satisfactory basis for use in taking out fire insurance.

School districts in California are not required to carry liability insurance.

State law requires the total amount of a bond issue not to exceed 5% of the taxable property of a unified district.

Since wider classrooms are being built, celings must be higher to insure adequate natural light.

The authority to levy taxes for support of public high schools was first established in the Kalamazoo case.

In the United States approximately 3.2% of the national income is spent for education.

A budget should be built largely by using last year's financial data as a reference.

Approximately half of the financial support of the nation's schools comes from property taxes.

School supplies may, under certain circumstances, be purchased out of the revolving fund.

Whenever a board needs more money to operate the schools, it can negotiate a loan.

The Encyclopedia of Educational Research includes summaries of research findings in nearly all fields of educational administration.

The school administrators' organization in this country is denoted by the letters N.E.A.

The professional organization most directly concerned with supervision in education is the ASCD.

Communication skills

For good administration it is essential that communication channels be open at all levels of the school. Recent organization theory and practice attest to the centrality of this feature for successful administration (see, for example, Bavelas, 19 , Schutz, 1958a). If staff members cannot air their opinions or feelings, resentments can build up and become destructive elements in the school's operation. Further, blocked communication means that many ideas are not heard and the quality of decisions thereby suffers.

Communication skills were measured by the scale presented in Table 13.

Table 13

Communication

Scale Name: The principal maintains an effective system of communication.

Short Title: Communication

Respondents: Teachers

(All items are to be responded to with one of six numbers. See details of scaling in Appendix.) The numbers mean:

1. Definitely not true	4. Tends to be true
2. Not true	5. True
3. Tends to be not true	6. Especially true

ITEMS	Positive Categories	% Accept	Mean	S.D.
1. Teachers express their opinions and feelings freely.	3456	88	4.13	1.31
2. Staff members discuss their problems and concerns freely with each other.	456	83	4.33	1.06
3. Staff members know how people feel about the school and its program.	456	80	4.12	.97
4. There is good communication between the teachers and other members of the school staff.	456	73	4.10	1.32
5. Teachers are kept informed as to how their work is evaluated.	456	65	3.83	1.29
6. The community and parents are kept aware of the accomplishments of the school and the students.	56	47	4.41	.88
7. The staff has a good knowledge of the feelings and opinions of the children about the school.	56	41	4.30	.85
8. Teachers and parents feel free to make suggestions for improving the school.	56	36	4.08	1.08
9. Teachers are kept informed of central office policy changes affecting the school.	6	9	4.22	1.12

Distribution:

% =	6.8	4.5	5.7	6.9	11.0	17.9	11.0	10.7	18.5	6.5
Score =	0	1	2	3	4	5	6	7	8	9

Reproducibility = .909 Zero point = 5

Educational leadership

Administrators often talk of their misgivings over not having enough time to devote to their first love, education, because of the demands on their time of administrative details. Whether this is a true complaint or a rationalization the importance of educational leadership is clear. The administrator who keeps up with latest developments himself, transmits them to his staff, arranges for advanced training for staff in such developments as the new math, language labs, and generally creates an atmosphere of experimentation and inquiry is generally held to be doing his job well. The degree to which teachers see their own administrator in that light is measured by the scale given in Table 14.

Table 14

Educational Leadership

Scale Name: The principal provides a high level of educational leadership.

Short Title: Leadership

Respondents: Teachers

(All items are to be responded to with one of six numbers. See details of scaling in Appendix.) The numbers mean:

1. Definitely not true
2. Not true
3. Tends to be not true
4. Tends to be true
5. True
6. Especially true

ITEMS	Positive Categories	% Accept	Mean	S.D.
1. There is constant evaluation of the total learning process.	3456	89	3.87	1.14
2. Experimentation and new approaches in instruction occur reasonably often.	456	75	4.09	1.11
3. The staff's attention is called to important and interesting articles or publications.	456	73	4.05	1.15
4. New ideas and information relating to education are regularly discussed.	456	62	3.70	1.10
5. High standards of academic achievement and learning are expected of the students.	56	48	4.34	1.09
6. Information is regularly available on new teaching materials, aids, resources, etc.	56	44	4.21	1.13
7. Current events of significance and importance for the school are regularly discussed.	56	30	3.90	1.09
8. New developments in each subject area are called to the staff's attention.	56	28	3.86	1.08
9. Released time is available for teachers to work on special projects or ideas designed to improve the school program.	56	16	3.05	1.30

Distribution:

%	=	8.4	9.0	8.6	9.8	14.5	9.8	11.7	7.6	11.6	8.4
Score	=	0	1	2	3	4	5	6	7	8	9

Reproducibility = .908

Zero point = 6

This completes the background and measurement of the task-oriented aspects of administrative behavior. The present study is concentrated primarily on these. However, there are several measures of the administrator's interpersonal effectiveness that were measured and studied in the present project, and others that will be presented in a subsequent report. The former will now be presented.

Interpersonal Effectiveness

As discussed above, the administrator is successful interpersonally insofar as he gets cooperation in accomplishing school objectives from the community, facilitative staff, school board, teachers and students. In this section the administrator's interpersonal relations will again be explored, but instead of being concerned with whether or not he achieves cooperation, the focus will be on what he does and feels in his interaction with people, and what they do and feel toward him. This exploration will lead to a criterion of administrative effectiveness involving the interactors' perceptions of the administrator's performance, both in his role as administrator, and as a human being.

As mentioned above, the goal of affording personal gratification to the administrator's interactors has two objectives. The first is to increase the probability of achieving school aims, assuming that certain types of interaction lead to better accomplishment of goals, an assumption that can and will be tested. The second objective is to make the school a gratifying social institution. That is, the personal satisfaction of the administrator's interactors in dealing with him and the school is regarded as a social value in itself, independent of whether or not it leads to cooperation.

Here again, the FIRO theory of interpersonal behavior is used as a framework for measurement of the administrator's relations. Since the basic data dealt with are perceptions of administrative interaction, analysis of all possible perceptions goes somewhat beyond what is required for a criterion measure. By taking the same measures used in the evaluation of effectiveness and analyzing them in different ways, other interesting information can be obtained.

The basic variables of the FIRO theory have been described in a previous section. They are summarized in Table 15.

Table 15

Schema of FIRO Interpersonal Behaviors and Feelings

Dimension	Expressed Behavior	Wanted Behavior
Inclusion	I initiate interaction with people.	I want to be included.
Control	I control people.	I want people to control me.
Affection	I act close and personal toward people.	I want people to act close and personal toward me.
	Expressed Feeling	Wanted Feeling
Inclusion	I feel people are important.	I want people to feel I'm important.
Control	I trust people's competence.	I want people to feel I'm competent.
Affection	I like people.	I want people to like me.

Beginning with this schema, the maximum number of interpersonal relations of the administrator with his interactors was explored through a facet design (Guttman, 1958) of the entire relation. The significant dimensions are:

1) Actor. Who initiates the interaction toward the other person (the target)? The actor can be either the administrator or the interactor.

2) Direction. Is the behavior expressed by the actor toward the target, or is it wanted by the actor from the target? Direction can be either expressed or wanted.

3) Perceiver. Who is perceiving the behavior? Perceiver can be either administrator or interactor.

4) Dimensions. What aspect of the relation is being perceived? Dimensions may be inclusion, control, or affection.

5) Levels. On what psychological level are the dimensions being considered? Levels may be behavior or feelings.

These facets are summarized schematically in Table 16.

Table 16

Facet Design of Perceptions of Administrative Interaction

			Perceiver: Administrator			Perceiver: Interactor		
			Inclusion	Control	Affection	Inclusion	Control	Affection
Actor: Administrator	Expressed to Interactor	Behavior	11	12	13	14	15	16
		Feelings	21	22	23	24	25	26
	Wanted from Interactor	Behavior	31	32	33	34	35	36
		Feelings	41	42	43	44	45	46
Actor: Interactor	Expressed to Administrator	Behavior	51	52	53	54	55	56
		Feelings	61	62	63	64	65	66
	Wanted from Administrator	Behavior	71	72	73	74	75	76
		Feelings	81	82	83	84	85	86

It is now important to consider the way in which measures of these facets of the administrator's interpersonal relationships can be used to evaluate administrative interaction. The problem of assessing how one person evaluates another may be approached at three levels.

Trait satisfaction

The simplest approach is to ask the interactor for his evaluation of the administrator on various scales that measure traits usually felt to be "good," like competence, likeability, understanding, etc. This involves one scale and one score, and an administrator is assumed to be satisfactory to the degree that he scores high on scales of "good" traits.

Personal satisfaction

Since not all interactors want the same things from administrators, the trait evaluation may be elaborated by comparing the interactor's ratings of the administrator with what the interactor would like from the administrator. For example, how friendly the interactor feels the administrator is can be compared with how friendly he would like him to be. This takes account of differences in desires or requirements (sometimes inaccurately called expectations) set for the administrator by different interactors. The closer the administrator's performance as seen by an interactor matches the interactor's desires for the administrator's behavior, the more satisfactory the administrator is to the interactor. It is assumed that an administrator is satisfactory to the degree that his performance meets the desires of his interactors.

Relational satisfaction

A third approach is based on the assumption that the administrator will be satisfactory not only if his behavior meets the desires of the interactors, but also if the interactors feel that their behavior and feelings meet the administrator's desires. For example, a superintendent may be rated high on competence (trait), be rated as high as the parents in the community want him to be on competence (personal), but he may make them feel they are incompetent, even stupid (relational). Thus, their evaluation in the area of the administrator's competence would be that their relation with him is, at best, only partly satisfactory.

Underlying this approach is the notion that a person feels positively toward someone who allows him to express the parts of himself that are most self-admired, including prominently the ability to satisfy another person. Failure of the administrator to be satisfied with the interactor leads the interactor to have feelings of inadequacy in an interpersonal relation and a consequent feeling of imminent rejection, thus making the relation highly undesirable. (For a similar notion, see "authentic relationship" in Argyris, 1957)

Measurement

The number of measures required to cover all of these relationships for all the various interactors in the school situation was prohibitive for practical purposes.

First to be omitted from the present study were the measures involving the concept of compatibility. They involve primarily a test of the FIRO theory, a task which is being done, but outside the scope of the present study.

Next a method of combining trait and personal satisfaction was derived by including both in the test item. For example, "I would like the school board members to have more respect and confidence in my abilities," is a way of measuring the difference between cells 22 and 42, that is a comparison between the way the superintendent sees the board expressing confidence in him (cell 22), and the amount of confidence he wants them to express in him (cell 42).

Finally, the number of scales of this type used for criterion measures of administrator effectiveness were cut to three, scales reflecting the degree to which the administrator made his interactors feel important, competent and liked. It was assumed that these scales gave a good insight into the interpersonal relation the administrator had established with his interactors. The scales are presented in Tables 17, 18 and 19.

Table 17a

Satisfaction with Administrator - Importance - Scale

Scale Name: I would like the superintendent to feel more strongly that I am an interesting person in a significant role.

Short Title: Importance (B:B, e-wIF)

Respondents: School Board Members

(All items are to be responded to with one of six numbers. See details of scaling in Appendix.) The numbers mean:

1. Definitely not true
2. Not true
3. Tends to be not true
4. Tends to be true
5. True
6. Especially true

ITEMS	Positive Categories	% Accept	Mean	S.D.
1. I would like the superintendent to be more concerned with my ideas.	3456	49	2.67	1.02
2. I would like the superintendent to feel more strongly that I am part of a significant educational body.	3456	44	2.60	1.08
3. I would like the superintendent to feel more strongly that I am important to the district.	3456	39	2.48	1.02
4. I would like the superintendent to feel more strongly that I am an interesting person.	3456	39	2.41	.88
5. I would like the superintendent to be more involved in my efforts to succeed.	3456	36	2.35	.85
6. I would like the superintendent to feel more strongly that I am a significant person.	456	26	2.75	1.07
7. I would like the superintendent to be more interested in my performance.	456	18	2.58	1.00
8. I would like the superintendent to believe more strongly that my function is a significant one.	456	18	2.51	1.05
9. I would like the superintendent to feel more interest in my development as a person.	456	15	2.43	.93

Distribution:

%	=	48.4	7.7	2.5	3.8	0.8	15.1	4.7	3.0	3.8	9.5
Score	=	0	1	2	3	4	5	6	7	8	9

Reproducibility = .950 Zero point = 5

Table 13b

Satisfaction with Administrator - Importance Scale

Scale Name: I would like the principal to feel more strongly that I am an interesting person in an important position.

Short Title: Importance (T:T, e-wIF)

Respondents: Teachers

(All items are to be responded to with one of six numbers. See details of scaling in Appendix.) The numbers mean:

1. Definitely not true	4. Tends to be true
2. Not true	5. True
3. Tends to be not true	6. Especially true

ITEMS	Positive Categories	% Accept	Mean	S.D.
1. I would like the principal to be more concerned with my ideas.	3456	66	3.15	1.20
2. I would like the principal to feel more strongly that I am important for the school.	3456	57	3.00	1.27
3. I would like the principal to feel more strongly that I am important to him.	3456	54	2.85	1.18
4. I would like the principal to be more concerned with me as a person.	3456	51	2.71	1.10
5. I would like the principal to feel more strongly that my role is a significant one.	456	37	3.10	1.27
6. I would like the principal to feel more strongly that my function is a significant one.	456	36	3.05	1.29
7. I would like the principal to feel more strongly that I am an interesting person.	456	26	2.82	1.12
8. I would like the principal to be more interested in my performance.	56	18	3.22	1.24
9. I would like the principal to believe more strongly in my worth as a professional person.	56	16	3.03	1.28

Distribution:

%	=	32.2	9.6	2.8	1.7	16.8	3.4	8.0	10.4	3.8	10.8
Score	=	0	1	2	3	4	5	6	7	8	9

Reproducibility = .956 Zero point = 4

Table 18a

Satisfaction with Administrator - Competence - Scale

Scale Name: I would like the superintendent to have more respect and confidence in my abilities.

Short Title: Competence (B:B, e-wCF)

Respondents: School board members

(All items are to be responded to with one of six numbers. See details of scaling in Appendix.) The numbers mean:

1. Definitely not true	4. Tends to be true
2. Not true	5. True
3. Tends to be not true	6. Especially true

ITEMS	Positive Categories	% Accept	Mean	S.D.
1. I would like the superintendent to feel more strongly that I am a competent decision-maker.	3456	44	2.56	.99
2. I would like the superintendent to have more admiration for my ability to be creative.	3456	41	2.46	.84
3. I would like the superintendent to have more respect for my judgment.	3456	42	2.52	.99
4. I would like the superintendent to have more confidence in me as a competent educational leader.	3456	39	2.47	.94
5. I would like the superintendent to be more confident that I am a self-sufficient person.	3456	36	2.44	1.00
6. I would like the superintendent to have more respect for my ability to select personnel.	3456	33	2.33	.88
7. I would like the superintendent to feel more strongly that I can be trusted to make wise changes.	456	22	2.50	1.09
8. I would like the superintendent to have more respect for my ability to think critically.	456	20	2.58	1.04
9. I would like the superintendent to have more respect for my administrative abilities.	456	14	2.46	.89

Distribution:

%	=	53.6	1.7	3.4	2.5	4.3	3.0	11.6	2.1	5.6	11.6
Score	=	0	1	2	3	4	5	6	7	8	9

Reproducibility = .960 Zero point = 6

Table 18b

Satisfaction with Administrator - Competence - Scale

Scale Name: I would like the principal to have more respect and confidence in my abilities.

Short Title: Competence (T:T, e-wCF)

Respondents: Teachers

(All items are to be responded to with one of six numbers. See details of scaling in Appendix.) The numbers mean:

1. Definitely not true
2. Not true
3. Tends to be not true
4. Tends to be true
5. True
6. Especially true

ITEMS	Positive Categories	% Accept	Mean	S.D.
1. I would like the principal to have more admiration for my ability to be creative.	3456	61	2.96	1.15
2. I would like the principal to feel more strongly that I can be trusted to suggest wise changes.	3456	59	3.03	1.25
3. I would like the principal to have more confidence in me as a competent instructor.	3456	56	2.94	1.25
4. I would like the principal to feel more strongly that I am a competent instructor.	456	38	3.14	1.26
5. I would like the principal to have more respect for my ability to think critically.	456	33	2.98	1.23
6. I would like the principal to have more respect for my judgment.	456	34	3.02	1.25
7. I would like the principal to feel more strongly that I am self-sufficient as a person.	456	31	2.95	1.22
8. I would like the principal to have more respect for my intellectual abilities.	56	15	3.09	1.21
9. I would like the principal to feel more strongly that I can make competent decisions.	56	15	3.03	1.24

Distribution:

% =	34.6	6.2	3.4	16.2	5.5	2.3	3.7	13.6	3.6	10.4
Score =	0	1	2	3	4	5	6	7	8	9

Reproducibility = .957 Zero point = 3

Table 19a

Satisfaction with Administrator - Liking - Scale

Scale Name: I would like the superintendent to feel friendlier toward me.

Short Title: Liking (B;B, e-wABF)

Respondents: School Board Members

(All items are to be responded to with one of six numbers. See details of scaling in Appendix.) The numbers mean:

1. Definitely not true	4. Tends to be true
2. Not true	5. True
3. Tends to be not true	6. Especially true

ITEMS	Positive Categories	% Accept	Mean	S.D.
1. I would like the superintendent to feel more like joking with me once in a while.	23456	88	2.51	1.02
2. I would like the superintendent to feel more convivial with me.	3456	43	2.45	.82
3. I would like the superintendent to feel more informal with me.	3456	40	2.52	1.04
4. I would like the superintendent to feel more relaxed with me.	3456	41	2.58	1.10
5. I would like the superintendent to like me more.	3456	37	2.40	.88
6. I would like the superintendent to be more cordial toward me.	3456	34	2.34	.83
7. I would like the superintendent to feel more like a pal toward me.	3456	22	2.13	.75
8. I would like the superintendent to feel more at ease with me.	456	21	2.58	1.06
9. I would like the superintendent to feel more like a friend toward me.	456	17	2.51	.98

Distribution:

% =	11.6	39.8	6.4	3.0	5.1	2.5	6.9	9.9	3.8	10.3
Score =	0	1	2	3	4	5	6	7	8	9

Reproducibility = .946 Zero point = 7

Table 19b

Satisfaction with Administrator - Liking - Scale

Scale Name: I would like the principal to feel friendlier toward me and to like me more.

Short Title: Liking (T:T, e-wABF)

Respondents: Teachers

(All items are to be responded to with one of six numbers. See details of scaling in Appendix.) The numbers mean:

1. Definitely not true
2. Not true
3. Tends to be not true
4. Tends to be true
5. True
6. Especially true

ITEMS	Positive Categories	% Accept	Mean	S.D.
1. I would like the principal to feel friendlier toward me.	3456	59	2.92	1.15
2. I would like the principal to feel more convivial with me.	3456	59	2.85	1.07
3. I would like the principal to feel more cordiality toward me.	3456	53	2.75	1.10
4. I would like the principal to feel more like joking with me once in a while.	3456	52	2.74	1.15
5. I would like the principal to feel closer to me as a person.	3456	51	2.65	1.02
6. I would like the principal to feel more like a pal with me.	3456	33	2.21	.89
7. I would like the principal to feel more at ease with me.	456	25	2.78	1.15
8. I would like the principal to feel more informal with me.	456	24	2.77	1.12
9. I would like the principal to like me more.	456	21	2.71	1.03

Distribution:

%	=	35.4	4.3	6.6	2.5	2.5	10.9	14.6	2.6	6.1	14.2
Score	=	0	1	2	3	4	5	6	7	8	9

Reproducibility = .948 Zero point = 6

Summary

Below are the measures of administrative effectiveness described above along with measures used for those that were in this study. These measures form the basis for the empirical results to be presented.

Table 20

Summary of Measures of Administrative Effectiveness

(The measures denoted by * were used in the present study.)

Criterion	Measure	Method
1. Student's academic achievement	Achievement divided by IQ	Objective test
2. Student's emotional adjustment	Subjective evaluation	Guidance counselors' report
3. Student's social adjustment	Delinquency, truancy, discipline, job success, social acceptance	Records and sociometric status
4. Student's physical health	Physical condition, freedom from disease and injury	Medical records
5. Community cooperation	Pass bonds, adequate taxation, citizen participation, aiding children at home	Election records, records of citizen participation
*6. Community motivated, guided and given opportunity to cooperate	"Use of human resources - community" scale	Taken by community members
*7. Facilitative staff motivated, guided and given opportunity to perform most efficiently	"Use of human resources - facilitators" scale	Taken by facilitators
*8. School board motivated, guided, and given opportunity to cooperate	"Use of human resources - facilitators" scale	Taken by school board members
*9. Cooperation with school board (for superintendent only)	"Superintendent-board relations" scale	Taken by school board members
10. Teacher effectiveness	Selection procedures, professional recognition	Subjective judgment, records

Table 20.cont.

Criterion	Measure	Method
*11. Teachers motivated, guided and given opportunity to attain excellence	"Use of human resources - teachers" scale	Taken by teachers
12. Student cooperation	Attendance, voluntary academic activities	Records, subjective judgment
13. Students motivated, guided and given opportunity to perform most efficiently	"Use of human resources - students" scale	Taken by students
*14. Sound decision-making	"Decision-making" scale	Taken by administrators and interactors
*15. Organizational ability	"Organization" scale	Taken by interactors
*16. School maintenance ability	"School maintenance" scale	Taken by administrators and interactors
*17. Technical knowledge	"Technical knowledge" test	Taken by administrators
*18. Communication freedom	"Communication" scale	Taken by interactors
*19. Educational leadership	"Educational leadership" scale	Taken by interactors
*20. Interpersonal effectiveness with community	"Satisfaction with superintendent" scales (3)	Taken by community
*21. Interpersonal effectiveness with facilitative staff	"Satisfaction with superintendent" scales (3)	Taken by facilitators
*22. Interpersonal effectiveness with teachers	"Satisfaction with principal" scales (3)	Taken by teachers
23. Interpersonal effectiveness with students	"Satisfaction with principal" scales (3)	Taken by students
*24. Overall evaluation of administrator	Overall evaluation question	Taken by interactors

Relations among Criterion Measures

Correlations and factor analyses were performed on the various criterion measures to determine their empirical independence. The foregoing discussion describes the logical or theoretical independence of these measures, but does not imply that there is not an empirical relation between any two. For example, the ability to effect technical maintenance in the school may be logically distinct from the ability to use human resources efficiently, but it may also be true that administrators who do the first tend also to accomplish the second. An understanding of the empirical intercorrelations will give a more rounded picture of the characteristics of the criterion measures.

Analyses were done for the following criteria:

1. Problem solving (Prb)
2. Communication (Com)
3. Leadership (Ldr)
4. School maintenance (Mnt)
5. Organization (Org)
6. Use of human resources (Res)
7. Interest (Int)
8. Respect (Rsp)
9. Liking (Lik)
10. Technical knowledge (TK)
11. Overall rating (Rtg)
12. Board relations (Brd)

Correlations were obtained among all criteria, 1) as ratings given by board members, 2) as ratings given by staff members, 3) as ratings given by teachers, and, 4) as ratings received by principals and superintendent/principals. For the first three, the scores given by any one rater were standardized for each administrator rated to eliminate the specific score gained by the administrator, and these standard scores given by raters for each criterion were intercorrelated. For the fourth analysis, the means scores received by each principal and superintendent/principal on each criterion rated by his teachers were intercorrelated. These tables of intercorrelations are given in Tables 21, 22, 23, and 24.

Table 21

Intercorrelations among criterion measures of ratings, expressed as standard scores, given by board members

Criterion		1	2	3	4	5	6	7	8	9	10	11	12
Prb	1	.	61	41	57	57	53	21	27	17	34	26	41
Com	2		.	63	70	69	61	40	41	37	32	58	61
Ldr	3			.	68	70	64	17	23	28	17	55	64
Mnt	4				.	71	62	27	40	31	31	56	58
Org	5					.	59	31	36	34	21	55	63
Res	6						.	21	22	32	27	54	68
-Int*	7							.	89	77	-11	31	41
-Rsp*	8								.	80	-07	30	42
-Lik*	9									.	-10	30	47
TK	10										.	19	09
Rtg	11											.	42
Brd	12												.

*These scales are reversed to make them positive, consistent with the other criteria.

Table 22

Intercorrelations among criterion measures of ratings, expressed as standard scores, given by facilitative staff

Criterion		1	2	3	4	5	6	10	11	12
Prb	1	.	60	46	76	67	64	-27	35	30
Com	2		.	62	66	54	68	03	35	16
Ldr	3			.	53	61	45	10	52	23
Mnt	4				.	80	60	-18	43	35
Org	5					.	58	-10	41	40
Res	6						.	-16	22	49
TK	10							.	19	09
Rtg	11								.	42
Brd	12									.

Table 23

Intercorrelations among criterion measures of ratings, expressed as standard scores, given by teachers

Criterion		1	2	3	4	5	6	7	8	9
Prb	1	.	54	47	50	56	50	28	25	20
Com	2		.	55	52	58	54	29	27	20
Ldr	3			.	48	53	50	24	21	19
Mnt	4				.	52	46	24	22	19
Org	5					.	55	32	31	24
Res	6						.	34	34	25
-Int*	7							.	85	74
-Rsp*	8								.	82
-Lik*	9									.

*These scales are reversed to make them positive, consistent with the other criteria.

Table 24

Intercorrelations among mean scores of teacher ratings received by principals and superintendent/principals on all criterion measures

Criterion		1	2	3	4	5	6	7	8	9
Prb	1	•	80	76	72	90	83	65	64	48
Com	2		•	79	68	84	82	58	61	49
Ldr	3			•	69	81	76	51	57	42
Mnt	4				•	78	76	44	44	30
Org	5					•	87	68	68	55
Res	6						•	58	62	49
-Int*	7							•	92	81
-Rsp*	8								•	89
-Lik*	9									•

*These scales are reversed to make them positive, consistent with the other criteria.

These tables seem to distinguish four areas of criteria.
1) Technical knowledge, which is virtually uncorrelated with any other measure of administrative effectiveness. This is an interesting result since it reveals that an administrator's knowledge of technical material is not related to his success as measured by any other criterion.

2) Overall rating, which had a definite correlation with most of the other measures but as will be shown below, does seem to be somewhat related to all criteria (except technical knowledge) but not precisely expressed by any one.

3) Interpersonal competence, comprising the three measures of how the administrator made his rater feel, seemed to be highly correlated with each other, and just mildly with the other criteria. The other measures with which they were most related were Board relations, as rated by board members, and communications.

4) General administrative rating, which includes the first six measures. Intercorrelations among these were very similar and consistent. In the factor analysis to follow an attempt was made to make a finer breakdown.

Since the mean ratings of the principals were a different measure from the others, and since the number of teachers ratings was very large, these two matrices were chosen for a factor analysis of the criterion measures. Only the first nine measures were used for this analysis. Tables 25 and 26 present the rotated centroid solutions.

Table 25

Factor loadings of teacher ratings on criterion scores

			Factor		
Variable		I	II	III	Com
Mnt	4	75	-10	29	65
Ldr	3	72	-09	34	64
Prb	1	70	-13	36	64
Rsp	8	-06	93	-22	92
Lik	9	-20	91	04	88
Int	7	-07	90	-25	88
Res	6	34	-19	73	68
Com	2	41	-11	72	70
Org	5	41	-16	71	70
		2.07	2.62	1.99	6.68
		.31	.39	.30	1.00
		.31	.70	1.00	2.00

Table 26

Factor loadings of mean principal and superintendent/principal scores on criterion ratings

		Factor		
Variable		I	II	Com
Org	5	87	-40	92
Res	6	87	-33	86
Mnt	4	85	-14	75
Prb	1	85	-36	85
Ldr	3	85	-26	79
Com	2	84	-33	82
Lik	9	-20	93	90
Rsp	8	-37	91	96
Int	7	-36	88	91
		4.69	3.06	7.75
		.61	.39	1.00
		.61	1.00	2.00

The mean ratings of principals yields only the two scores seen earlier. Apparently the summation of all teacher scores cancels out any finer discrimination among the first six criterion scores. However, the factor analysis of teacher ratings allows a look at the factor structure in more detail. The three factors may be named similar to the theoretical basis for generating them.

1. Personal traits, including those qualities that are primarily characteristic of the administrators' personal performance. His problem solving ability, ability to maintain the school plant, and his educational leadership reflect more about him as a person.

2. Interpersonal traits, including the satisfaction an administrator engenders in his interactors with the interpersonal situation. The measures on this factor are the raters' feeling that the administrator finds them important, competent and likeable.

3. Organizational traits, including those that have to do with his ability to integrate and coordinate the various elements of the school situation into an efficient operation. Criteria constituting this trait are organizational ability, use of human resources and communication.

The relation of these factors to technical knowledge and to the overall rating are given in Table 27.

Table 27

Intercorrelation of factor scores with overall rating and technical knowledge scores

Variable	TK	Rtg	Per	Org	Inp	P+O
Technical Knowledge	.	05	-13	-16	-09	-15
Overall Rating		.	47	43	41	46
Personal Traits			.	91	55	98
Organizational Traits				.	54	98
Interpersonal Traits					.	56
Personal plus Organizational						.

Here is brought out even more clearly the unrelatedness of technical knowledge to other criteria, and the general consistent relationship of the overall score to each of the other criteria.

In the subsequent analysis criterion scores will be used in several of the forms described here.

Properties of Individuals: Theory and Measurement

by

William C. Schutz

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The basic formulation of this study specifies three sets of variables, 1) individual characteristics of the administrator and his interactors, 2) properties of the social situation in which the administrative situation exists, and, 3) criteria for administrative effectiveness. This chapter is devoted to an exposition of the selection and measurement of traits of the individuals involved in the study; administrators, board members, staff members, teachers, and parents.

Selection of Variables

Since there are an indefinitely large number of individual traits -- background, physical appearance, psychological structure, hobbies, values, etc. -- criteria must be established for selecting which of these traits are to be measured.

For this study the criterion is very straightforward. Variables should be selected which are most relevant to an administrator's performance at his job. Four approaches were used to determine the most likely relevant measures.

1) Role analysis. The role of the educational administrator was examined to determine the personal traits relevant to executive excellence. Observation of an administrator's day, for example, indicates that his eye color appears to be less pertinent to his performance than his ability to deal with people. While observations of this type are necessarily subjective and somewhat arbitrary they do serve as a good first approximation to relevant variables, especially when used in conjunction with those derived from the other three approaches described below.

2) Past research. Many studies have been performed on the traits of leadership (see Gibb, 1954) and more recently on the interactional characteristics of leader and follower (Haythorn, 1953, Schutz, 1955). These latter studies focus on the factors that lead to general traits such as "getting along well" with people. For example, some studies stress the importance of measuring defense mechanisms (Cohen, 1957, Waxler, 1959) and some point to the irrelevance of a similarity in many background characteristics of leader and follower, as measures for determining leadership success.

3) Theory. There have been a few attempts to organize research in the field of leadership and interpersonal behavior into a theoretical framework. These theories can be very useful for relating various concepts that are not obviously connected. In addition, theory often points to relevant areas of investigation that may not spontaneously emerge from the more pragmatic approaches, for example, the relevance of early childhood relations with authority figures.

4) Empirical analysis. The first three methods lead to the selection of variables on the basis of observation and past research. They are methods for the rational selection of variables potentially relevant to the prediction of the criterion under consideration, namely, administrative success.

After the variables have been selected by rational methods and measures are derived, these methods may be subjected to an empirical test of their independence. Although there may be sound theoretical reasons for selecting each measure several of them may actually be measuring virtually the same quality. Role analysis, for example, may indicate the importance of the trait of leadership in administrative success; past research suggest that dominance is important; and theory recommend including initiating structure. Although these concepts are theoretically independent, it is quite possible that administrators high on one of these tend to be high on the others, and those low on one tend to be low on the others, that is, the traits are statistically intercorrelated. The empirical techniques of factor-, cluster-, and latent structure-analysis are frequently used to reduce a large number of variables to a more workable number without appreciable loss of predictive power.

The success of the selection of variables to predict administrative performance is of course tested through intercorrelations with criteria. This is the final step of this study and will be reported on in the chapter on Results.

Role analysis

A detailed study of the role of the administrator has been presented in the chapter on the criteria of administrative effectiveness. In summary, this analysis of administrative goals revealed the requirements that to do his job best, the administrator must be able to, a) deal effectively with subordinates, peers, and superiors, including students, teachers, staff, parents, and school board members, b) motivate, guide, and give these people an opportunity to function effectively, c) make sound decisions, that is, know how to recognize a problem, gather relevant evidence, consider alternatives and take appropriate action, d) acquire sufficient technical and general knowledge, and have the ability to know his weaknesses and buttress them with subordinates to compensate for these lacks, and, e) use optimally his human resources and inspire their respect and to some degree, liking.

The introduction of social variables (in the social variable chapter) presents another set of traits relevant to administrative success, the compatibility of the administrator with his situation. This chapter describes the importance of the compatibility between the administrator's personal characteristics and those of the people and the social setting in which he functions. Compatibility applies both to background traits, such as religion, ethnic group, marital status, and to personal character, values about education, politics, and other public issues.

Analysis of the administrator's role suggests that the general areas of excellence required for administrator success are interpersonal effectiveness, cognitive ability, and particular background traits.

Past research and theory

The criteria chapter also presented a review of the literature on administrative effectiveness including related theories. The conclusion reached was that there was little convergence of viewpoint except possibly on the value of Barnard's (1938) initial distinction between task oriented and interpersonal oriented factors in administrative interaction. These were extended by the FIRO theory to include a third factor, the ability to use human resources.

The survey of past research underscores one of the primary approaches of this study, the growing recognition of interactional factors, and the importances of having several measures on several interacting people at once. Of the available theoretical frameworks, the FIRO theory of interpersonal behavior was chosen as the theoretical basis for deriving individual measures for predicting administrative effectiveness. The most recent statement of the theory, presented in terms of its relation to the educational context is in Culbertson, (ed.) (1962). Following is an abridgement of that presentation.

FIRO theory applied to educational administration. The FIRO theory was derived to account for interpersonal behavior. By regarding the school administration situation as largely interpersonal, the theory is applicable. Following are some of the hypotheses derived from the theory and applied to the administrative setting. They suggest several areas of measurement of individual variables.

1. The hypothesis of interpersonal needs.

    a) Every individual has three interpersonal needs: inclusion, control, and affection.

    b) Inclusion, control, and affection constitute a sufficient set of areas of interpersonal behavior for the prediction and explanation of interpersonal phenomena.

This statement means that there are three important areas of interpersonal behavior which, if not considered in an investigation, will lead to a poor correlation between prediction and outcome; further, the addition of any other variables beyond these three will yield an insignificant increment in predictive power.

FIRO theory states that most of an individual's interpersonal behavior is determined by his needs in three interpersonal areas, called inclusion, control, and affection. These dimensions can each be considered for the levels of behavior and feeling, and within each interpersonal area at each level, two aspects may be considered, expressed and wanted. "Expressed" refers to behavior or feelings an individual initiates toward others, while "wanted" refers to behavior or feelings he wants others to express toward him. These dimensions give rise to 12 basic variables, represented by the cells in Table 1.

Table 1

Variables of the FIRO theory

	Behavior	Feelings
Expressed inclusion	I make efforts to include other people in my activities and to get them in include me in theirs. I try to belong, to join social groups, to be with people as much as possible.	Other people are important to me. I have a high regard for people as people and am very much interested in them.
Wanted inclusion	I want other people to include me in their activities and to invite me to belong, even if I do not make an effort to be included.	I want others to have a high regard for me as a person. I want them to consider me important and interesting.
Expressed control	I try to exert control and influence over things. I take charge of things and tell other people what to do.	I see other people as strong and competent. I trust and rely on their abilities.
Wanted control	I want others to control and influence me. I want other people to tell me what to do.	I want other people to feel that I'm a competent, influential person and to respect my capabilities.
Expressed affection	I make efforts to become close to people. I express friendly and affectionate feelings and try to be personal and intimate.	I feel people are likeable or lovable.
Wanted affection	I want others to express friendly and affectionate feelings toward me and to try to become close to me.	I want people to feel that I'm a likeable or lovable person who is very warm and affectionate.

2. The hypothesis of relational continuity. This hypothesis states the relation between interpersonal behavior in early childhood and interpersonal behavior in later situations through adulthood. The hypothesis includes:

a) The assertion of a relation between those behaviors that occur at different times of life.

b) The mechanisms through which relational continuity operates.

c) The degree to which these mechanisms are effective for different adulthood situations.

An important focus for the study of an administrator's behavior is the relation of his present behavior on the job to his behavior during earlier periods of his life. If the pattern of an administrator's interpersonal behavior can be traced back to its origins, a much better understanding of his present performance may be possible. This is especially true of his interpersonal relations. For example, an administrator's behavior and feelings toward authority figures or toward female subordinates may be better understood by reference to his early relation with his father or older brother in the first case, and with his younger sisters in the second case.

Testing this hypothesis requires measurement of the childhood relations of the administrator with his parents, and similar current relations with present interactors. An elaboration of the hypothesis is presented below along with a description of an appropriate measuring instrument, LIPHE (Life Interpersonal History Enquiry).

3. The hypothesis of compatibility. The compatibility of an administrator and his interactor (teacher, staff, board member, parent) is positively correlated with the interactor's rating of the administrator's effectiveness.

The effectiveness of an administrator is a function of the interaction between himself and those with whom he has contact in the school situation. To test this hypothesis requires knowledge of three aspects of the situation: the administrator, the interactor (person with whom the administrator interacts), and the relation between them.

The administrator and his interactor can be studied in terms of several dimensions dealing with personal, interpersonal, intellectual, and sociological factors. The relation between these two people can be considered in terms of, 1) how similar they are to one another, and 2) in what respects they differ from one another (or are complementary).

Compatibility with respect to defense mechanisms, educational values, cognitive style, and intelligence is measured in terms of similarity. The hypothesis states that the more similar the administrator is to each interactor on these characteristics the higher will be the effectiveness rating the interactor gives the administrator.

In the case of interpersonal characteristics, compatibility is explored by using the formulations of the FIRO framework and taking into account both similarity and difference. The theory includes 1) originator compatibility, dealing with the agreement between the initiator and the receiver of behavior; and, 2) interchange compatibility, which considers the atmosphere in which people prefer to interact.

4. The hypothesis of compatibility development. The compatibility of an administrator with salient others in the areas of inclusion, control, and affection, respectively, correlates positively with effectiveness during the first, second, and third phases of administrative interaction.

The compatibility hypothesis refers to an interpersonal relation at a specific point in time. The hypothesis of group development (presented in Schutz, 1958, but not used when applied to educational administration) may be integrated with the notions of compatibility to generate hypotheses about the evolution of the relation between administrator and interactor.

The hypothesis of group development asserts that the early concerns of group members are with inclusion problems -- whether or not to belong to the group and how much to participate. As these become resolved, problems of control come to the focus of attention -- the question of who will lead and who will follow. Finally, affection problems emerge -- the question of how emotionally involved the group members will be with one another.

Applied to school administration, the combination of the hypotheses of compatibility and of group development implies that the administrator's compatibility with school and community members in the interpersonal areas of inclusion, control, and affection may have differential influence on his effectiveness, depending upon how long the administrator has served in a particular school system. The combined hypothesis (compatibility development) suggests that when he is just starting out, it should be most important that the administrator be compatible with his staff and community with respect to inclusion. At some later period, control compatibility should become important. And finally, when he is well established in a job, compatibility with respect to affection should have the most influence on his effectiveness.

Confirmation of this hypothesis has important implications for administrator selection. It suggests, for example, that a particular principal might be relatively ineffective in a given school system for the first year (incompatibile with respect to inclusion) but later develop into an extremely effective person for the job (compatible with respect to control and affection) if he were retained. Or the reverse might occur -- a principal might function very well in a school system for a few years (compatible with respect to inclusion and control) but later become much less effective (incompatible with respect to affection).

Testing this hypothesis requires a definition of the "first, second, and third phases of administrative interaction." What is the basis on which to establish just how many years each phase might involve?

An examination of the educational administration situation in the pilot study indicated that the first year on the job should be considered phase one for the hypothesis. Experience with principals and teachers indicates that a principal's first year is unique in that it is spent largely in familiarizing himself with the job and getting to know the people with whom he works. There seems to be a definite "feeling out" period in which principal and teacher try to work out their pattern of work and relating. When a principal returns to his job for the second year, he is perceived differently. He is now an experienced person why may be dealt with on a different basis.

The dividing point between phases two and three was also difficult to choose. It seems that after three years in a job, a man's pattern of administration is reasonably well settled so that the second and third years should be regarded as those in which the problem of relative influence between teacher and principal is worked out. Following that phase, a more permanent relation between the two begins to be established. Administrators in phase one were called "newcomers," in phase two, "regulars," and in phase three, "veterans."

The final refinement of the hypothesis refers to the diminishing impact of the area compatibilities on each phase. Phase one overlaps somewhat with phase two and a little or not at all with phase three. Hence, for newcomers the relation between effectiveness and inclusion compatibility should be greatest, followed by the relation between control compatibility and effectiveness, and last, the relation between affection compatibility and effectiveness. Since phase two overlaps both phases one and three, the inclusion and affection compatibility correlations for regulars should both be less than control and about equal to each other. In phase three for veterans, the order of correlation size should be affection, control, and inclusion. This hypothesis requires the individual measure of "time in present position".

5. The hypothesis of interpersonal symbolism. The attitudes and ideas a person holds about educational values are positively correlated with his orientations toward interpersonal relations.

This hypothesis asserts that an individual's behavior and attitudes toward abstract ideas and inanimate objects are predictable from a knowledge of his behavior and attitudes toward people. Behind this hypothesis lies the assumption that the apparently objective and rational attitudes people have toward inanimate objects, including abstract ideas, are usually or always projections of similar attitudes toward people. Consider the common practice of describing ideas with the same adjectives used to describe people -- bold, exciting, foolish, noble; objects like ships and countries are referred to as "she"; names are given like Mother Nature, Father Time, Uncle Sam.

In previous studies it has been found that political attitudes are significantly related to interpersonal orientations (Christiansen, 1959; Gladstone, 1955; Scott, 1960; Schutz, 1958, p. 69). In the latter study, for example, people who as a personality trait expressed a great desire to be controlled by others project these attitudes into the political sphere, agreeing, for example, that the President should make it a policy to leave problems to his subordinates until it is absolutely necessary for him to deal with the problem personally.

The same relation should hold between values toward education and interpersonal orientations. Education values are seen as a function of the feelings and behavior one expresses toward and wants from people.

Thus, the administrator's approach to education should be predictable from a knowledge of his approach to people.

More specifically, a relation is hypothesized between the fundamental orientations people have toward interpersonal relations and their educational values. This hypothesis requires the measurement of educational values.

Areas of individual measurement

From a consideration of these three sources of information, role analysis, past research, and theory, a classification of measures was developed, designed to cover the areas of individual measurement most likely to be related to administrative effectiveness. The following dimensions were chosen for measurement:

1) Present and past. Especially from theoretical considerations it seems very important to explore a person's past relations as well as those in the present. The LIPHE (Life Interpersonal History Enquiry) questionnaire was devised to measure early childhood relations with parents, and BIRTH ORDER, SIZE OF FAMILY, and SIBLING PATTERN were asked of each respondent. All other instruments related to the present.

2) Emotional and cognitive. Many studies point to the relevance of both intellectual capacity and style, and personal and interpersonal factors. A modified form of the CONCEPT MASTERY TEST was used to measure general intellectual capacity. A new test of KNOWLEDGE OF EDUCATIONAL ADMINISTRATION was devised, and two scales of cognitive style, IMAGINATION and CERTAINTY were devised from the Myers-Briggs Type Indicator.

3) Behavior and feelings. The actual behavior of a person is not always predictable from his feelings at the time. It is important to keep separated thses two levels of human functioning. The FIRO-F (Fundamental Interpersonal Relations Orientation-Feelings) questionnaire measures feeling about interpersonal relations, while the COPE (Coping Operations Preference Enquiry) questionnaire measures defense or coping mechanisms by inference from reported behavior.

4) Background traits and values. Certain traits exist at birth and other are results of life history. Through the course of this life history an individual develops a set of values to deal with the world. Educational values were especially relevant to this study and were measured by a new instrument called VAL-ED (Educational Values). In addition, political values were measured through a question about POLITICAL philosophy. A person's RELIGIOUS preference is sometimes a combination of inheritance and choice. Background traits that a person is born with include SEX, AGE, ETHNIC background, and perhaps FATHER'S EDUCATION. Other characteristics acquired during life history are MARITAL STATUS, EDUCATION, INCOME and MOBILITY. The latter were obtained by single questions. In addition, there were three traits specific to administrators that were often hypothesized as relevant to administrative success. They were YEARS IN POSITION of administrator, YEARS FULL TIME TEACHING experience, and FIELD of specialization during training. The latter two items were selected because many states have teaching requirements for the administrative credential, and because many think that there are an inordinate number of

physical education majors in administration and that they may not be the most competent group from which to select.

These measures constituted the original battery. In light of the analysis of the role of the administrator, past research, and theoretical considerations these variables seemed to cover the major areas of individual measurement.

Measuring Instruments: derivation and development

Each measuring instrument will be presented in the following form:

1) Discussion of the theoretical basis for using the measure and the method for the development of the scales. Some instruments, especially those used for coping mechanisms, educational values, and parental relations, require extensive discussion and theoretical development since they are essentially new. Others like FIRO-F, cognitive style and background traits are either well researched or are discussed theoretically in other publications, and therefore require much less development.

2) Listing the actual items used to form the measuring instrument. The method for all the scales unless otherwise noted is given in Appendix D.

3) Statistical characteristics of the scale including the scaling properties, intercorrelations of the scales, mean and standard deviation of the scales based on a sample of the 5847 subjects used in the study.

Defense or coping mechanisms (COPE)

In the study of human interaction the investigation of the characteristic ways in which people avoid anxiety or exposure has become increasingly important. Most psychological theory assumes that there are difficult and threatening aspects to everyone's personality -- such things as feelings of inferiority, impulses to hostility, feelings of inadequacy, feelings of insignificance, and strong lusts and desires. Much of human activity is spent in preventing others from learning about these parts. They are often hidden even from the person himself.

In the course of human development, techniques are evolved for avoiding or distorting such feelings. These techniques are often called defense or coping mechanisms and are thought by many to be necessary to some degree in order to maintain effective functioning. Further, some theorists feel that defenses so fully color the ways in which people present themselves to the world that they constitute the main basis for liking or disliking people. Since there has been little work done on the measurement of defenses, it is necessary to discuss these matters in detail.

Anxiety is present much of the time in human interchanges. Sometimes immediate situations are the source, as when an administrator appears before the school board and his competence is challenged. Sometimes anxieties are life long and are carried around as part of the "character armor", as with an administrator who cannot form close relations with his colleagues because the anticipated pain of eventual rejection or separation is too great.

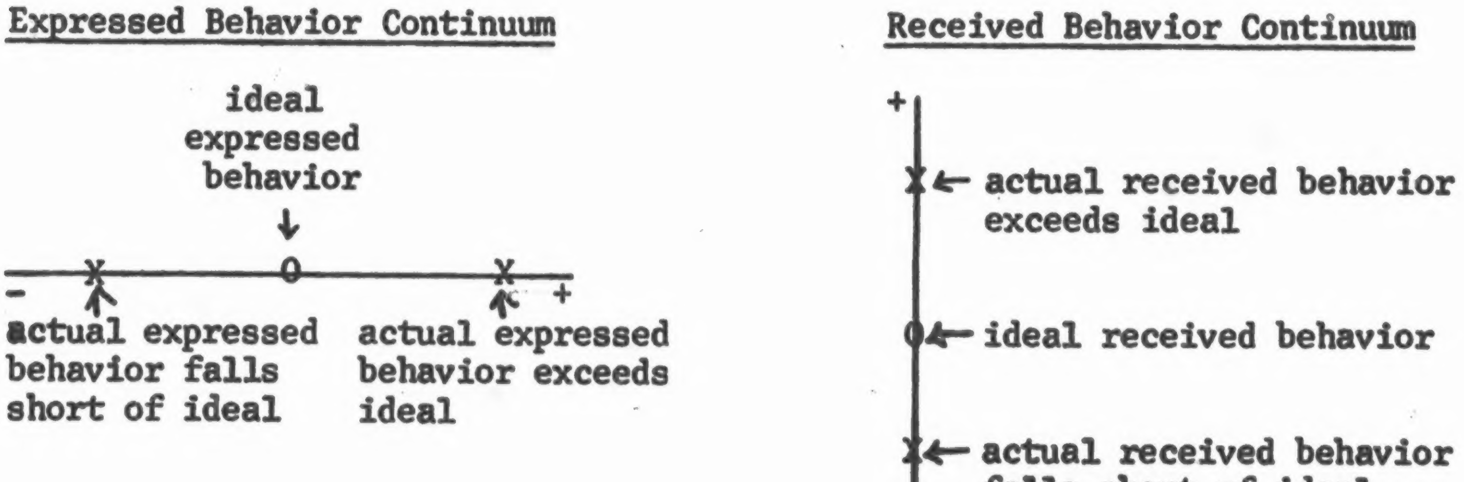
Since the overwhelming majority of an administrator's time is spent interacting with people, his characteristic mode of dealing with anxiety is of central concern. Recent experiments have shown that certain types of copers are reacted to more favorably than others (Cohen 1959).

Unfortunately, the theoretical and experimental literature in the field of defenses has not kept pace with growing realization of the importance of defense mechanisms in human life. The classical work of Anna Freud (1939) was the first major advance over the seminal ideas of her father. To organize this work and the more recent investigations in this field a theoretical framework based on the FIRO theory will be presented, and the work of other authors related to this framework. The theoretical development of this framework and construction of the COPE instrument was done in collaboration with Dr. Nancy Waxler and is reported in detail in her dissertation (Waxler, 1959).

The structure of the FIRO theory of interpersonal needs suggests a useful paradigm for anxieties and coping mechanisms. The theory postulates that the three basic interpersonal needs of inclusion, control, and affection must be satisfied, where satisfaction means both an optimum expression of a certain kind of behavior (expressed) as well as an optimum receipt of this behavior from others (wanted). Each of these needs can be represented as two continua: one continuum for the expression of the need-related behavior and one for the behavior received from others in this same area. According to the demands of a particular interpersonal situation, there is an ideal behavior, namely, that behavior which is consistent with one's self concept. Discrepancies between actual and ideal behaviors, then, can result in anxiety as shown in Figure 1.

Figure 1

Sources of Anxiety


Expressed Behavior Continuum

Received Behavior Continuum

ideal expressed behavior
-
+
actual expressed behavior falls short of ideal
actual expressed behavior exceeds ideal
+
actual received behavior exceeds ideal
ideal received behavior
actual received behavior falls short of ideal
-

It is the discrepancy between actual and ideal behaviors which results in a feeling of threat or anxiety in the individual. As this discrepancy increases, anxiety increases. These kinds of anxiety situation are the ones against which defenses must operate.

Examples of the type of anxiety-arousing situation shown in the Expressed Continuum are:

1) An administrator would like to be democratic in his relations to teachers (expressed control), but he behaves very autocratically.

2) An administrator would like to be very close and personal with teachers (expressed affection) but finds that in his job he acts very impersonally.

Examples of the type of anxiety-arousing situation shown in the Received Behavior Continuum are:

1) An administrator would like to be invited to PTA meetings and other parent activities (wanted inclusion) but has not been asked.

2) A superintendent wants the principals to make most of the decisions regarding their school program (wanted control), but they won't.

Anxieties arise from a discrepancy between ideal behavior or feelings and the behavior or feelings of the individual in his immediate situation. The unsatisfactory present behavior can be caused either by some compulsion inside the person or by some external circumstance such as being put into a working situation where certain types of behavior are prohibited.

An interpersonal situation can be seen in these terms: The individual feels and/or behaves toward another person in a way which can be described by a point on one of the interpersonal need axes. The interpersonal situation is thus composed of the following components:

Subject (S): the person (ego) in which the feeling exists.

Feeling (→): the feeling or affect which is directed from the subject to the object.

Object (O): the object toward which the feeling is being directed, usually a person.

This situation may be represented as : S→O, a subject has a certain feeling toward an object. Coping mechanisms operate to bring the S→O behavior or feeling into congruity with the S→O of the ideal and thus obtain for the individual an acceptable way of perceiving the self in relation to others. In order to alter or distort the basic situation any one or more of the components of the interaction schema can be changed. This alteration or distortion is considered to be the function of a coping mechanism; it is defensive because the original feeling toward the original object is not worked through but instead a change in the S→O schema is brought about so that (temporarily) the feeling can be handled acceptably.

Some examples will clarify this concept. Suppose the true feeling of the subject is, "I hate my father." His self-ideal says, however, "I am the kind of person who likes people." Therefore he can change any one of the S→O components in this way:

Changing the subject: "It is not I who dislikes my father, but it is people in general who dislike him." (Projection)
Changing the feelings: "I love him." (Reaction formation)
Changing the object: "It is not my father I dislike, but policemen instead." (Displacement)

All the above distortions first involve a repression of part of the original S→O schema which then allows a new one to be superimposed which is more similar to the self's ideal. This new schema allows, then, a handling of the feeling in a way which is acceptable to the ideal and which then lowers the anxiety level temporarily.

Several authors have suggested using these three components -- subject, feeling, object -- or a similar group to explore the area of defense mechanisms. Freud (1923) in describing defensive development, uses the source, the aim, and the object as descriptive categories. Waelder (1935) suggests a classification in terms of the changes a defense causes in the aim or the object of the instinct. Parsons (1951) discusses defenses as means of solving conflicts between motivational systems in the individual by his changing a cathexis toward an object; this may be interpreted as being an object change which resolves differences between differently valued behaviors, a conception similar to the discrepancy between ideal and actual behavior. Rosenman (1952) defines defenses as strivings by the individual to attain new and more acceptable ways of consciously perceiving himself in relation to significant others. Changes in defense can occur in: 1) who is regarded as subject or object of action, 2) who is regarded as other, 3) blurring of self-other boundary.

If the idea of discrepancy and S→O components is an accurate explication, then the coping mechanisms discussed in the literature should be transcribed into this terminology without distorting their usual meaning or adding characteristics which are not clinically valid. Following are the mechanisms usually described in the literature:

1. Denial	Disclaims any existence of a feeling about a certain object. Fenichel (1945): "I don't know whom this person in my dream represents, certainly not my mother."
2. Identification with Aggressor	Assumption of qualities of the opponent with change of feeling toward opponent. Aichorn (1935): boy threatened by teacher made same grimaces as did teacher when scolding him; tried to master anxiety by involuntarily imitating him.
3. Symptom Formation	Feeling directed toward another is first repressed, then turned toward self, becoming symptoms. Alexander (1931): hostile impulses to mother-in-law repressed, then manifested in symptoms (weakness, palpitation).

4. Turning against Self	Aggression, sadism against others turned to self when aggression is not acceptable and there are guilt feelings. A. Freud (1939): child who hated mother turned hatred inward and tortured herself with self-accusations and feelings of inferiority.
5. Reaction Formation	Adherence to opposite emotional attitude; object stays same, affect reversed. Fenichel (1945): mother who unconsciously hates her child may develop an extreme affection for the child.
6. Rationalization	Isolation of feeling with reasoning to reinterpret behavior. Alexander (1931): I attack him because he is wrong, not because I envy him.
7. Isolation (Compartmentalizing)	Emotional significance of object is isolated from dealings with the object; or object is split. Fenichel (1945): splitting of contradictory feelings toward objects -- as the good mother vs. the wicked stepmother in fairy tales.
8. Undoing	Repression of original act with another act confirming isolation of impulses; carries isolation into behavior. A. Freud (1939): case of hand washing compulsion as an attempt to undo an unacceptable act done with the hands.
9. Intellectualization	Feelings are turned into ideas which can be dealt with in isolation. May (1958): fears of childbirth dealt with by discussions of pseudo-scientific nature.
10. Avoidance	Avoidance of environment in which difficulty occurs. A. Freud (1939): child avoids situations in which he compared unfavorably in skill (may be some kind of conscious isolation).
11. Projection	Shifting of own affect and impulse upon others. A. Freud (1939): hatred for female love objects was transformed into conviction that she herself was hated and persecuted.

12. Displacement	Transfer of feeling from one object to another. A. Freud (1939): Little Hans' displacement of aggressive impulses from father to an animal.
14. Regression	Object, drive, or act may change to an earlier form, as when adult becomes "confused" and needs help when he is in anxious situation.

The thirteen mechanisms presented are the major ones discussed in the literature. By systematic alteration of the S→O schema it is possible to derive a framework to generate systematically these mechanisms. Looking at S→O schema from the point of view of perception of the person in question -- how he sees his own and others' behavior -- various types of distortions are apparent.

Subject: can be
1. self
2. another object

Feelings: can be
Not expressed
1. denied (not dealt with)
2. isolated (present but ignored or demeaned)

Expressed
3. altered
4. expressed without alteration

Object: can be
1. the original object
2. a substitute or new object
3. the self

Definitions of terms used in these descriptions:

Denied: the subject disclaims the existence of the object in reality or of the feeling toward an object; no new S→O schema is substituted for this denied one.

Isolated: the original S→O schema and the feelings are not repressed but instead the emotional connotation of the schema is separated from the cognitive meaning; thus the S→O discrepancy is felt, in a sense, but this anxiety genrated is ignored.

Altered: the content of the affect toward an object is altered; it may be reversed, partially reversed, or replaced by another feeling.

Not altered: the content of the affect in the original S→O schema is not changed (non-defensive).

If the above changes in the S→O schema are the major methods in defensiveness, then combining all of the changes into one table will indicate the relationships between different types of defenses. This type of analysis has been called a substruction (Lazarsfeld and Barton, 1958), or a facet design (Guttman, 1960; Foa 1963). These combinations are presented in Table 2. (Numbers are for identification of cells and will be referred to below.)

Table 2

Facet design of coping mechanisms

		FEELINGS NOT EXPRESSED		FEELINGS EXPRESSED	
SUB.	OBJ.	DENIED	ISOLATED	ALTERED	NOT ALTERED
SELF	OTHER	11 DENIAL	12 UNDOING, INTELLECTUALIZ., ISOLATION, RATIONALIZ.	13 REACT. FORM., REVERSAL, OVERCOMPENS.	14 NON-DEFENSIVE
	SUBSTITUTE OTHER	21 (DENIAL-DISPLACEMENT)	22 (ISOLATION-DISPLACEMENT)	23	24 REGRESSION, DISPLACEMENT
	SELF	31 CONVERSION, DENIAL	32 ISOLATION	33 IDENTIFIC. WITH AGGRESSOR	34 INTROJECTION, TURNING AGAINST SELF
OTHER	OTHER	41 (PROJECTION)	42 (PROJECTION)	43 (PROJECTION)	44 PROJECTION
	SUBSTITUTE OTHER	51 (PROJ.)	52 (PROJ.)	53 (PROJ.)	54 PROJECTION
	SELF	61 (PROJ.)	62 (PROJ.)	63 (PROJ.)	64 PROJECTION

There are several characteristics of this classification to be noted. It is inclusive in that it includes all defenses mentioned in literature, except avoidance (may be conscious isolation) and possibly a few scattered others (Alexander's provocative behavior). There are no assumptions about 1) developmental sequence, that is, no assertion of which defenses develop first; 2) the anxieties against which defenses operate, such as presented by Semrad (1954), or, 3) the origins or meaning of any defense. In other words this classification simply describes, defines and relates the defense mechanisms.

The classification is useful as, 1) a means of relating differing definitions of defenses; relating definitions of various authors; 2) a specification of types of defenses which may occur clinically but which have not been defined theoretically, for example:

cell 21: Denial, displaced: Hostile impulses to mother-in-law are repressed and manifested in symptoms that are displaced into fear that husband children would die (Alexander, 19).

cell 63: Projection and reaction. Freud's formula for denial of passive homosexuality: "I do not love him, I hate him" (Reaction formation). "He hates me." (Projection).

cell 54: Projection and Displacement: Freud's (19) formula for projection by homosexual man: "I do not love him; she loves him."

and 3) generation of items for defense preference inventory.

Measurement. The COPE (Coping Operations Preference Enquiry) test was developed to measure the relative preference of the respondent for each of several coping mechanisms chosen as representative of the various cells in the facet design (Table 2).

To develop the test, situations were derived to describe all the types of interpersonal anxiety possible within the above framework: too much and too little inclusion, control, and affection.

There are six possible anxieties related to an individual's own behavior toward others and six related to other people's behavior toward the self. In addition, all six anxieties can occur for feelings as well as behavior. These are schematized in Table 3.

Table 3

Types of interpersonal anxieties

	Self toward others		Others toward self	
	Behavior Level	Feeling Level	Behavior Level	Feeling Level
Inclusion				
Control				
Affection				

Since in each area there can be anxiety resulting from having too much or too little of the commodity at issue, there are 24 possible anxiety sources:

Self to other behavior anxieties

Too much:

Inclusion-- I'm with people too much.
Control -- I'm too dominating.
Affection-- I get too personal.

Too little:

I - I don't mix with people enough.
C - I'm not decisive enough.
A - I'm too cool and aloof to people.

Other to self behavior anxieties

Too much:

I - People don't leave me alone enough -- give me privacy.
C - People boss me around too much.
A - People get too personal with me.

Too little:

I - People don't pay enough attention to me (ignore).
C - People don't help me enough (tell me what's expected).
A - People don't act personal enough to me.

Anxieties about self to other feelings

Too much:

I - I respect everyone's individuality too much.
C - I respect everyone's competence too much.
A - I like people too much.

Too little:

I - I don't respect people as individuals enough.
C - I don't trust people's abilities enough.
A - I don't like people enough (can't express affection).

Anxieties about other to self feelings

Too much:

I - People feel I'm too important.
C - People respect my abilities too much.
A - People like me too much.

Too little:

I - People don't feel I'm significant.
C - People don't respect my abilities.
A - People don't like me enough.

All of these are possible sources of anxiety. For each anxiety the coping mechanisms could be explored. The instrument developed explores only coping mechanisms used to handle the first six, i.e., self-to-other behavior. Another instrument to measure the next six, other to self behavior anxieties has been developed but was not used in this study (see Obradovic, 1963).

For each anxiety a hypothetical situation is presented in which that anxiety is evoked and to which the subject must respond with defense preferences. Within each of these problems, all the components of the anxiety paradigm are presented to the subject. The actual behavior (A) situation is described in terms of one of the end-points of the dimension (the "under" or "over" aspects of expressed behavior). Only the kind of behavior associated with one dimension is described, so that subjects will respond only to that specific area of anxiety. For example, for the inclusion problem and the "overactive" type the behavior described includes "joining" and "including" but does not deal with control or affection.

To this statement about a specific type of behavior on the part of the hypothetical individual is added his feeling of dissatisfaction because his behavior differes from his ideal behavior (I). For example, the person behaves in a way which is underpersonal but would feel more comfortable if he behaved in a way which was less underpersonal.

An example of one of the anxiety problems is included here to indicate how the theoretical paradigm of anxiety is utilized in drawing up our anxiety problems:

Establishing that there is a problem	"Yesterday something happened to Alex which seemed to make him feel disturbed..."
Statement of usual actual behavior	"...Alex usually does everything together with people and when others do things he tends to join them..."
Statement of discrepancy of usual behavior from desired (ideal)	"...Yesterday a group of friends came over and asked him to go out with them. Alex seemed not to want to go but went anyway..."
Expression of dissatisfaction with discrepancy	"...He appeared to realize that he might enjoy himself more if he didn't always join people but spend more time by himself..."

Presentation of the problem to the respondent	"...He still appears to be concerned about this. How would you guess he really feels now?"

At this point in the test form, the respondent, putting himself in the place of Alex, is given the alternatives from which he must choose. These alternatives, the defense items, are described below.

The theoretical definition of anxiety thus serves as the paradigm from which the anxiety problems on the test are drawn. Both the actual and the ideal behaviors are described in the problem, and the discrepancy between them is explicitly stated. The individual's feeling of dissatisfaction or anxiety is also included in the sentence: "He still appears to be concerned about this." "Concern" seems to connote feeling which is neither extremely strong nor extremely weak. The fact that feelings are described eliminates the possibility that Alex has already removed the affect from the anxiety feeling and can report his problem without any emotion. Without the addition of the statement of feelings, it could be assumed that the subject taking the test is responding to an anxiety against which a defense has already operated.

The defense items. The goal of accurate derivation from the theory was also the main consideration in developing the defense items. This point is most important since it gives the measure theoretical consistency. Multiple choice items were used instead of open-ended responses to the anxiety problems, to eliminate the problem of content-analysis of uncoded responses.

Each defense item is presented in the form of a direct quotation which answers the question, "He still appears to be concerned about this. How would you guess he really feels now?" Several considerations went into the translation of the theoretical definition of defense into an item on the test.

Denial item. "He's not worried. He feels this isn't a very important problem."

Denial is defined as a lack of recognition of feeling toward a significant object. The item here involves a lack of recognition that the discrepancy between actual and ideal behavior occurs to any important extent. The "don't worry" aspect was added to the item to give this item the same supportive connotation as the other items.

Isolation item. "He may do too many things with others, but he doesn't feel this has much to do with how much he enjoys people."

Isolation is defined as a recognition of the discrepancy between actual and ideal behavior, but with denial of the affect which would ordinarily be a result of the discrepancy. In this item the problem is recognized but the emotion is disconnected from the anxiety; thus the discrepancy is made not important to the individual.

Projection item. "Although he may do too many things with others, he feels that this is because other people expect him to."

Projection is defined as reversing the subject and object of the feeling. In the item the anxiety problem is accepted, but the motivating source of the behavior is perceived as being in the object rather than the subject.

Regression item. "He feels that he may do too many things with others, but with help from someone more experienced, he could change."

Regression is defined as an alteration in the ego itself to the point where an earlier role is taken. It is assumed that this earlier role is ultimately the dependent relationship with the parent. Therefore, our item for regression implies recognition of the anxiety and a statement of the need for help employing the use of a parent-figure who is more experienced.

Turning-against-the-self item. "He realizes that the fault for doing too many things with others lies completely with himself and with no one else."

Turning against the self is defined as changing the object of the feeling from another object, toward which affect cannot be expressed or felt, to the self. The item is constructed so as not to be perceived as a diagnostic response but, rather, as a way of dealing with anxiety -- blaming the self rather than others who also may be available.

The five defenses used in the questionnaire sample most aspects of the three attributes of defense. Three of the four types of feeling expression are represented; the fourth, alteration of feelings, was, in the early form of the test, also represented by a "reaction formation" item which had to be discarded because of difficulty in accurate wording. All the alterations in source of feelings are represented -- the self, the altered self, and the other. Two of the three types of object are represented -- the other and the self. The answer alternatives include items which represent the most varied types of defenses. Finally, the position of items under the problems were set in a 5 X 6 modified Latin square design so that item order would have no systematic effect on choice of defense. Preference for defense items is obtained through a ranking of items under each anxiety problem from most likely (1) to least likely (5). The score is the sum of ranks on all five defense items measuring the same defense.

The fact that the anxiety stimulus is clearly defined and the defensive responses are provided for the subject might suggest that an intelligent, psychologically sophisticated subject would be able to "see through" the test to its purpose and skew his responses in one way or another. During the standardization process a question on the last page asked for comments from the subjects regarding the items from which they were to choose; the question read, "Did you have difficulty in understanding or choosing from the items provided?" Only one of 554 subjects indicated by his answer that he realized the items were defensive and that there was no "non-defensive" response provided. In informal discussions with other subjects taking the test, none indicated that he knew it was a projective one, much less that the items were defenses. Even if a subject were able to "see through" the questionnaire it seems reasonable to assume that his responses, selected from the series of defenses, would be significant since there is no obviously "right answer".

In Table 4 the COPE questionnaire is presented.

Table 4

COPE items

ACTIVE ALEX

"Yesterday something happened to Alex which seemed to make him feel disturbed. Alex usually does everything together with people, and when others do things, he tends to join them.

"Yesterday a group of friends came over and asked him to go out with them. Alex seemed not to want to go, but went anyway. He appeared to realize that he might enjoy himself more if he didn't always join people but spent more time by himself.

"He still appears to be concerned about this. How would you guess he really feels now?"

a. He's not worried. He feels this isn't a very important problem.
b. He may do too many things with others, but he doesn't feel this has much to do with how much he enjoys people.
c. Although he may do too many things with others, he feels that this is because other people expect him to.
d. He feels that he may do too may do too many things with others, but with help from someone more experienced, he could change.
e. He realizes that the fault for doing too many things with others like completely with himself and with no one else.

COOL CLYDE

"Yesterday Clyde realized something about himself which appeared to disturb him. When he is with people, he usually acts rather cool and reserved. He is the kind of person who doesn't get very close to people or confide to them his feelings and worries.

"During a long conversation yesterday, Clyde seemed to want to confide in a friend the things he worries about and how he feels, but he didn't. It appears that he became aware for the first time of the fact that he might enjoy his relations with people more if he were not so cool and reserved; if he were warmer and more personally involved with his friends.

"Today Clyde still appears concerned about his realization of yesterday. How would you guess he really feels now?"

a. He realizes that the fault for being cool toward others is completely his own and no one else's.
b. He feels that this isn't a very important problem. He isn't worried.
c. He feels that he may be cool toward others, but with help from someone more experienced, he could change.
d. Although he may be cool toward others, he feels that this is because other people behave that way toward him.
e. He may be cool toward others, but he doesn't feel this has much to do with how much he enjoys people.

Table 4 (continued)

DOMINANT DAN

"During a club meeting yesterday, Dan appeared to realize something about himself which seemed to disturb him. When he is with people, he is usually quite domineering. He takes charge of things and makes most of the decisions.

"After volunteering for the role of chairman, it occurred to him that he would have been happier just being a committee member. He seemed to realize for the first time that he would enjoy people more if he were not so domineering; not always making decisions for people.

"Today Dan still appears concerned about his new realization of yesterday. How would you guess he really feels now?"

a. He realizes that the fault for being too domineering lies completely with himself and with no one else.
b. He isn't worried. He feels this isn't a very important problem.
c. He may be too domineering, but he doesn't feel this has much to do with how much he enjoys people.
d. Although he may be too domineering, he feels that this is because other people expect this of him.
e. He feels that he may be too domineering, but with help from someone more experienced, he could change.

PERSONAL PAUL

"Paul is a very outgoing type of person. He tends to become very close and personally involved with others. He confides to them his innermost feelings and worries.

"Yesterday, he spoke to a friend and told him a great deal about himself. After thinking over this talk, he seemed to feel that he would have felt more comfortable if he had not confided so much. Perhaps he would enjoy his relations with people more if he didn't become so close and personal; if he were more cool and reserved.

"This morning Paul still appears concerned. How would you guess he really feels now?"

a. He may be too personal toward others, but he doesn't feel that this has much to do with how much he enjoys people.
b. He realizes that the fault for being too personal with others lies with himself and with no one else.
c. He feels that this isn't a very important problem. He isn't worried.
d. He feels that he may be too personal with others but that with help from someone more experienced, he could change.
e. Although he may be too personal toward others, he feels that this is mainly because other people behave that way toward him.

Table 4 (continued)

SUBMISSIVE SAM

"In a group meeting yesterday, Sam, who rarely takes charge of things even when it might be appropriate, appeared to be very disturbed. When a request was made for volunteers for the chairmanship, Sam suddenly seemed to realize that he might like the job. He appeared to feel that he might enjoy his relations with people more if he were not so reluctant to be more assertive.

"Today he appears to be still concerned. How would you guess he really feels now?"

a. Although he may take too little responsibility, he feels that this is mainly because other people expect this of him.
b. He feels that he may take less responsibility than he should, but with help from someone more experienced, he could change.
c. He may take less responsibility than he should, but he doesn't feel this has much to do with how much he enjoys people.
d. He feels this isn't a very important problem. He isn't worried.
e. He realizes that the fault for taking too little responsibility lies completely with himself and with no one else.

WITHDRAWN WALTER

"Last night Walter was thinking over the fact that he usually does things by himself and hardly ever includes other people in his activities.

"Some time later a group of students from one of his classes came by and asked him to go out with them. Almost automatically, he refused. After they left, he seemed to realize that he would enjoy his relations with others more if he didn't always do things by himself; if he spent more time with people.

"This morning he still seems concerned. How would you guess he really feels now?"

a. He feels that he may do too many things by himself, but that with help from someone more experienced he could change.
b. Although he may do too many things by himself, he feels that this is mainly because other people are too busy to include him.
c. He realizes that the fault for doing too many things by himself lies completely with him and no one else.
d. He may do too many things by himself, but he doesn't feel that this has much to do with how much he enjoys people.
e. He feels this isn't a very important problem. He isn't worried.

The test was administered to the 5847 subjects in the research project. The intercorrelations among the defenses are presented in Table 5.

Table 5

Intercorrelations among COPE scales

	Denial	Isolation	Projection	Regression	Turning-ag.-self
Denial	.	23	-17	-37	-39
Isolation	23	.	-01	-38	-28
Projection	-17	-01	.	03	-39
Regression	-37	-38	03	.	-01
Turning-ag.-self	-39	-28	-39	-01	.

Table 6 gives the mean and standard deviations for the five scales. (Range of raw scores is 6 to 30.) The large variation in the means led to a conversion of the scores for each defense into deciles to take account of mean differences. Scores are expressed as a set of five decile scores (0 to 9) for the five coping mechanisms. The conversion table and norms for each defense for various groups and variables are given in Appendix E.

Table 6

Means and standard deviations of COPE scores

	$\overline{X}$	S.D.
Denial	23.7	5.70
Isolation	17.8	3.81
Projection	17.7	4.19
Regression	16.5	4.76
Turning-ag. self	13.4	5.49

Educational values

Perhaps one philosophy of education is more conducive to effective administration than another. The problem of selecting various philosophies of education and of devising methods of measuring these philosophies has been the focus of many investigators over the past decades.

Until recently little research has been focused specifically on the place of values in education or on the various approaches to education itself. It has often been suggested, however, that the values held by an educator influence his approach to the teaching-and-learning situation, to his students, and to educational conduct in general. Definitions of"values" are many but relatively similar. Barnart defines values as "the things of social life toward which the people of the group have an affective regard." Davis (1948) has said that, "A value is that which is considered desirable and which is thought worthy of being pursued." Kluckhohn (1951) states, "A value is a conception, explicit or implicit, distinctive of an individual or characteristic of a group, of the desirable which influences the selection from available modes means and ends of action." Mort and Ross (1957), conforming with this general consensus and expanding upon it, say,"1) the culture has a series of definable sanctions, 2) those sanctions have reasonable bases and when stated as principles are dimensions of goodness in action, 3) these principles can be a series of tests to decide whether or not a proposed act will be a wise action."

Weisskopf (1959) identifies three approaches to values in modern thought, corresponding to the naturalist, humanist, and ontological models of man. For the naturalist, reality is limited to the facts of the world as presented by the five senses. All else, values included, are lower types of reality and require factual verification by the senses in order to be acknowledged as real. Reality is arrived at by an application of logic to observed fact. For these thinkers society is built on a scientific procedure; socially it is success which decides about truth value. Values are both scientific and social virtues and are derived from the scientific process and from the rules governing a society in which the empirical scientific attitude is predominant. In other words, values are derived from life, from nature, from human existence, by observation, and, like scientific laws, they can be verified, confirmed, and validated by the observed facts. Bronowski (1959) asserts that the ultimate validation of values is survival. "A fundamental value system must fit the society which hopes to live and survive by it." He further maintains that values are an instrument of evolution. When speaking of values, Margenau (1959) distinguishes the factual and the normative. He equates these to a corresponding dichotomy in the field of science: the descriptive and the theoretical. Factual values are "observable preferences, appraisals, and desires of concrete people...are neither right nor wrong but are facts of observation." "Normative values are the ratings...which people ought to give to value objects." In short, values are norms. "A factual or logical statement interconnects two data in the form of an 'is'; values and norms interconnect data in the form of an 'ought to' or 'ought not to'." (Weisskopf, 1959). Much controversy has been aroused by this philosophy, and it remains in the main current of modern thought.

The humanist approach to values is based on a holistic method of acquiring knowledge. It considers the totality of human experience including sensorial facts, inner experience, imagination, fantasy and thought to establish knowledge, logic, factual observation, empathy, and intuition. Humanist thinkers share with the naturalists the belief that values are, in some way, derived from life, from nature, from human existence...But they differ somewhat from the naturalists in the way they view the human situation; their point of view resembles that of the ontologists because they include elements of transcendence in their image of human existence...And the main difference between naturalists and humanists is that the latter have found a unifying principle in the human self. (Bronowski, 1959, p. 210). Allport (1961), Fromm (1947), Goldstein (1940), Maslow (1954), Lee (1953), and Sorokin (1939), all adhere to humanistic philosophy. They uphold that the ultimate values are love, creativeness and participation without impairment of the individuation. The person itself is the unity within which such antinomic tendencies as facts and values are united. Both the humanists and the naturalists seem to have the same premises: values can be confirmed by reality. Where they differ is in their definition of reality. The naturalists include only the non-human reality, or, where they do include human reality, "they include only those aspects of it which are isomorphic with the reality of nature, the finite, the conditioned, the realm of necessity." Human reality for the humanists includes "those aspects which cannot be subsumed under the finite, the conditioned, the necessary, such as memory, imagination, fantasy, consciousness, self-awareness, and reason and the human ability to transcend the given, conditioned, finite situation." (Weisskopf, 1959, p. 213). Whereas, for the naturalists facts and values are separate and often opposites, for the humanists these become one in man. Self-actualization, when seen in this light, means the existential realization of a unity which is potentially pre-existent in the human person. It implies balance and integration and points to the union of opposites: the essence of ultimate values. This alone is the ultimate value for the humanists, and it can be accomplished by the unifying effects of love.

The ontological image goes one step further; it seeks to transcend the facts of sensory observation and of intuitive experience. (See Tillich (1959) and Suzuki (1957)). The ontologists say that, "Values are derived from the essential structure of being." They reject at the outset the naturalistic separation between the world we encounter and the realm of values. Values are thought of as autonomous because they are rooted in man's essential being. They have a command and imperative character because "the moral law is man's essential nature appearing as commanding authority." (Tillich, 1959, p. 195). The imperative nature of values stems from the estranged state of existence in which man finds himself by the existential split between essence and existence. Ultimately, they say, values are part of reality, of being; only through the existential distortion are they made to appear as separated. Likewise, ultimate "unity is seen in being itself, in that realm, in that sphere in which all estrangement is dissolved, in which essence and existence, fact and value, being and potentiality are united and harmonized." (Weisskopf, p. 219).

Weisskopf, in trying to sum up the similarities and differences between these three approaches, states, "...the naturalists move on the level of the antinomies; the humanists stress the polarity of the antinomies and their unity on a purely human level; and the ontologists attribute a higher reality value to the dimension of unity. They all strive for unity through love but within different dimensions." (p. 222)

In studies of educational values two major approaches have emerged. Willower (1961) describes these as, 1) the descriptive analysis of values, with the major focus on discovering the actual effect of social and individual values in the administrative process, and, 2) the normative approach, the philosophical treatment of values as ideals.

Under the descriptive approach fall primarily methodological concerns. The questions asked cover four general categories. These categories and some representative results help to clarify the boundaries of the problem of value measurement.

1) How does the position one holds in an organization influence his values? Do teachers, principals, and chief school administrators differ as groups in terms of value orientation?

Prince (1957), studying individual values and administrative effectiveness found that there is a relationship between the extent of agreement in values held by principals, teachers, and students, and the degree of effectiveness, satisfaction and confidence in leadership found in the school.

2) How does the degree of congruence of values held by the various members of an organization affect factors such as morale and productivity?

McKenna (1960) found that there was low tension in chairman-professor interpersonal relations when the chairman's view of organizational power structure is similar to that of his professors. Along similar lines, Prince (1957) found that students with value orientations similar to that of a teacher are more apt to perceive the teacher's behavior as effective than do students whose value patterns are dissimilar. The degree of congruence in values between teachers and principals is directly related to the teachers' confidence in leadership and to the teachers' rating of the principal's effectiveness. He found no significant relationship either between value differences and teacher satisfaction or between value differences and the principal's rating of teacher effectiveness.

3) How do values influence administrative decisions? Is it predictable that a superintendent of schools with a certain type of value orientation will make certain kinds of decisions?

Everett (1961), Miller (1959), Newsome and Gentry (1962), and Britton (1959), have asked these questions and found that decision-making is based largely on the values one holds, and that a knowledge of value orientation can indicate leadership (including decision-making) style. Simon (1954) sums up these findings:

> ...Two persons, given the same possible alternatives, the same values, the same knowledge, can rationally reach only the same decision. Hence, administrative theory must be concerned with the limits of rationality, and the manner in which organization affects these limits for the person making a decision...

4) What is the relationship between personal values and organizational values? How do the members of a profession learn the values of the professional group? How do personal values influence the selection and entry into a professional group? How does the personal-organizational values relationship influence conflict, satisfaction, and placement of loyalties in an organizational setting?

This is especially important in any attempt to study administrative effectiveness. If internal conflict occurs within an organization, effectiveness will be at a minimum. If similar value orientations of the participants contribute to harmony and ultimate effectiveness, then this is an area for concern. Both Prince (1957) and Getzels (1958) dealt with these problems and have found, as have Merton (1940), Levinson (1959), and Blau, Gustad, Jessor, Parnes, and Wilcock (1956), that value orientations are related to role and occupational choice and harmony prevails where individuals are matched well to their occupational roles and to each other.

The second approach which Willower differentiates, the normative approach, askes the following kinds of questions in its concern with educational philosophy.

1) What is the "good" school? What should be the ends of education?

Of primary importance in this type of inquiry are Dewey (1922), Mann (1840), Barnard (1938), Thorndike (1944), James (1890), and Curti (1961), social critics who apply their philosophies to education. All of these men hold that the aim of education should be to prepare the child to function effectively within a democratic society. Schooling must be broad and comprehensive, and dispensed with as much equality as possible to produce citizens who can knowledgeably participate in their own government. These men emphasized that learning by rote did not produce minds capable of free and intelligent thought, and suggested that the schools be adapted to the child rather than vice versa.

More recently Dahlke (1962), Wirth (1961) and Gordon (1962) have dealt with these important questions. They seem to emphasize that the aims of education should be centered around producing Maslow's "self-actualized" or self-actualizing, person. Gordon sums this up by saying that teachers must encourage children to value, a)openness to experience, b)flexibility, c) objectivity, d)complexity, e)perfection, f)spontaneity, g)rationality, h) integrity, i)autonomy, j)responsibility, and,k)charity.

2) What is the "good" society and what should be its relation to the institutional agency concerned with education? What are the implications for education of the values underlying a democratic society?

Questions such as these also take the school-community relationship into account. The prevailing opinion among educators is that the schools are entrusted with the task of transmitting to children those values which that society deems essential. The school is therefore responsible to the community in which it functions and to the society at large. Since ours is a democratic system which operates via a bureaucracy, the schools must be able to teach, in fact and theory, this basic tenet.

Discussions of these ideas can be found in Cook (1957), Stiles (1959), Carr (1951), Mead (1950), Hutchins (1953), Gardner (1950) and Sears (1959). Sears deals directly with this problem. His major assumption is that the administrative (and educative) function derives its nature from the nature of the services it directs.

> Starting with the idea that the nature of administration derives from the nature of the process of individual learning, the nature of our culture (including especially our government, our laws, our system of economy), and the capacity of the administrator, it is reasoned that administration is not a mechanism or a system with laws inherent in itself, but is derived from a study of the service it is to manage.

3) In what ways do different systematic philosophies imply different kinds of educational philosophies?

4) What are the specific behavioral implications of a philosophy of education for the educational administrator? What difference for administrative behavior should the acceptance or rejection of a particular philosophy of education make?

These last two questions are treated together because of their intrinsic similarity. The Southern States CPEA Center (1955) at George Peabody College (under Orin Graff) dealt with these problems in their approach (called "competency concept") to educational administration. They demonstrate that competency results when an "individual exhibits behavior that enables him to perform a particular administrative task in the most desirable manner", or what ought to be. They state this clearly:

> It was also recognized that in many instances the designation of a task and the choice of a method of performing it depended upon a value base which an individual might possess... It was recognized that this value base which penetrated an individual's behavior was actually a theory of educational administration.

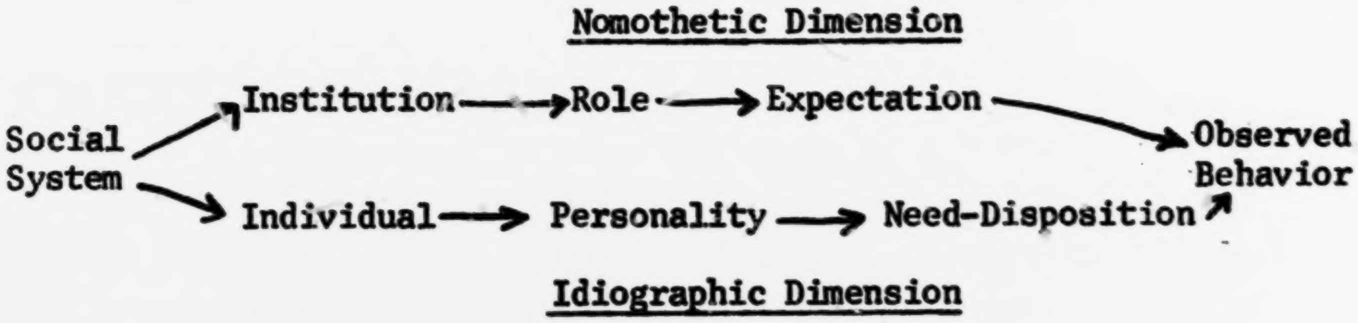
The competency concept consists of three elements: job, theory, and know-how. The job is the critical task (of which there are fifty-two in eight critical task areas); the theory is the method of performing the critical task; and the know-how are the operational beliefs, skills and knowledges needed to perform the task.

The Midwest Administration Center at the University of Chicago has derived a series of hypotheses under Getzels (1958). Administration is conceived of structurally as the hierarchy of subordinate-superordinate relationships within a social system. Functionally this hierarchy of relationships is the locus for allocating and integrating roles and facilities in order to achieve the goals of the social system.

Getzels reported two sets of derivations and applications from the model shown below (Figure 2). The first is that there are two levels of interaction in any social system, the nomothetic and the idiographic. The publicly prescribed nomothetic relationship is enacted in two separate private idiographic situations -- one by the subordinate and the other by the superordinate. The functioning of the administrative process was hypothesized to be dependent on the nature of the overlay of the perception of the expectations of the subordinate and superordinate. The second deduction deals with conflict. The model points to three sources of conflict in the administrative setting; role-personality conflict, role conflict, and personality conflict. The second deduction has proved to be particularly useful in the study of dissatisfaction among personnel.

Figure 2

Levels of social system interaction



Halpin (1958) and Fox (1961) also deal with these problems, although not as completely as the above two theorists do.

Synthesis. From a consideration of the major philosophical approaches to values, and of the specific issues concerning educational values, certain areas are clarified. The role of education itself, and the primary objective of the schools seems to divide the humanist and the naturalist. Is it the mind of the child that should be the school's focus, or should he be developed as a total human being?

An extension of this issue encompasses the concern about a "good" school and the educational implications of a democratic society. The concerns are relevant to the relation of the teacher to the student, and to the school's objective of making independent citizens.

The various investigations into societal and organizational values highlight the administrator and the community and their relations to each other and to the schools. Issues such as academic freedom, fraternization of school personnel with the community, and the locus of determination of school policy are intimate concerns in this area.

Many of the interests of the "descriptive" studies assume a measure of values. These studies contribute to the present inquiry by indicating the type of applications for which a measure of educational values will be useful.

An assessment of educational values to be comprehensive should cover the school program and objectives, the treatment of the children by teachers, and the possible relations among children, teacher, administrator and the community. These areas seem to concretize the various philosophical issues in terms of specific behaviors. If these behaviors are then conceptualized and put in a normative ("ought") form, the resulting instrument should meet the need of this study.

Measurement: VAL-ED. As with the other new measuring instruments, a facet design was developed first to provide a basis for generating the population of items to be included in the instrument.

One facet of the area of educational values is the people involved in the educational enterprise, that is, child, teacher, administrator and community. Another facet is the direction of the relationship, for example, the teacher's behavior toward the administrator, or the administrator's behavior toward the teacher.

These two facets do not specify the content of the interaction among educational figures. To develop the content facet once again the FIRO theory is used. Most of the issues mentioned in the literature survey seem to emerge from an application of the theory to the educational actors. For example, the relation of administrator to teacher in the control areas covers many of the academic freedom issues; and the relation of the community to the administrator in the inclusion area is related to the issue of school and society. The facet of areas of interaction: inclusion, control and affection, is therefore added. This yields the facet design presented in Table 7. Figures in cells refer to number of scale measuring content of that cell.

Table 7

Facet design for educational values

Educational Figures (Actor)

Educational figures (target)

Areas of Interaction	Child			Teacher			Administrator			Community		
	I	C	A	I	C	A	I	C	A	I	C	A
Child	.	.	.	(005)	006	007	x	x	x	x	x	x
Teacher	x	x	x	.	.	.	011	012	013	008	009	010
Administrator	x	x	x	x	x	x	.	.	.	014	015	016
Community	x	x	x	008	x	010	x	x	016	.	.	.

The facet design yields 48 cells. An examination of each cell, that is, each logical possibility, for a scale of educational values reveals that several are not highly significant, or don't fit the interests of the present project. For example, the child's behavior toward the administrator, or toward the community is not a very useful point of exploration. On this basis several cells were eliminated. These are indicated by x's in the cells of Table 7.

In addition there are relevant non-interpersonal aspects of educational values not included in the facet design. These include the importance of the school's attempt to develop a child's own abilities, the importance of education in society and whether the proper focus of the school is on developing the whole child, or just developing his mind.

The resulting scales constituted the VAL-ED. In Table 8 the scale titles, scale names, and psychometric data for each VAL-ED scale is presented.

Table 8a

VAL-ED - Importance Scale

Scale Name: Education has intrinsic value beyond its occupational advantages.

Short Title: Importance

Respondents: All

(All items are to be responded to with one of six numbers. See details of scaling in Appendix.) The numbers mean:

1. Strongly disagree	4. Mildly agree
2. Disagree	5. Agree
3. Mildly disagree	6. Strongly agree

ITEMS	Positive Categories	% Accept	Mean	S.D.
1. Women need as much education as men do.	56	83	5.17	1.01
2. Drive is much more important in getting ahead then the type of education one gets in school.	1234	78	3.50	1.27
3. The main value of an education is to help a person find a better job.	123	64	4.08	1.40
4. Education makes people doubt and question things that should be accepted on faith.	12	57	4.20	1.58
5. A college education causes people to become too critical of the American way of life.	1	49	5.15	1.16
6. Education is valuable even if all it does is to help a person increase his knowledge of the world and people.	6	32	5.08	.89
7. Much of what is taught in schools is of little value because it is too far removed from real life.	1	25	4.60	1.26
8. Experience is man's best teacher, and not school or books.	1	16	4.35	1.22
9. A college education makes a person more aware of important world issues.	6	20	4.58	1.13

% =	4.6	7.2	13.6	14.5	14.6	17.9	10.5	7.8	4.2	4.6
Score =	0	1	2	3	4	5	6	7	8	9

Reproducibility = .862 (Quasi-scale) Zero point = 2

Mean = 4.25 Standard deviation = 2.31

Table 8b

VAL-ED - Mind Scale

Scale Name: The school should concern itself primarily with developing the mind of the student rather than with developing his whole personality.

Short Title: Mind

Respondents: All

(All items are to be responded to with one of six numbers. See details of scaling in Appendix.) The numbers mean:

1. Strongly disagree	4. Mildly agree
2. Disagree	5. Agree
3. Mildly disagree	6. Strongly agree

ITEMS	Positive Categories	% Accept	Mean	S.D.
1. Active involvement, like discussion, is a more effective way of producing learning than a lecture by the best of subject matter experts.	12345	81	2.51	1.23
2. The school should consider the personal and social needs of the child and not only his mind.	12345	72	2.13	1.04
3. Nonacademic courses like band and homemaking are just as worthy of a portion of the school's time as are foreign languages, geometry, etc.	12345	68	2.22	1.30
4. The aim of the school should be the development of the child's total personality, not only his mind.	12345	59	1.99	1.20
5. The school, to be effective, does not have time for vocational courses like autoshop or shorthand.	23456	50	1.83	1.20
6. If schools are to train the minds of children, they cannot devote time to nonacademic activities as well (e.g., crafts, clubs, sewing).	3456	28	2.21	1.18
7. The school should help the child to trust his own judgment.	6	21	4.81	.99
8. Today's schools need to devote some time to subjects other than the basic subjects (English, science, mathematics.	1234	18	1.95	1.01
9. The presentation of what children need to know by teachers who are experts in their subjects produces the best learning.	6	16	4.21	1.30

% =	8.7	11.9	9.1	10.2	15.3	20.4	13.4	3.0	4.6	2.9
Score =	0	1	2	3	4	5	6	7	8	9

Reproducibility = .880 Zero point = 8

Mean = 3.82 Standard deviation = 2.29

Table 8c

VALED - School-child control scale

Scale Name: The school should help the child to realize and use his own abilities and judgment most effectively.

Short Title: SC: Control

Respondents: All

(All items are to be responded to with one of six numbers. See details of scaling in Appendix.) The numbers mean:

1. Strongly disagree
2. Disagree
3. Mildly disagree
4. Mildly agree
5. Agree
6. Strongly agree

ITEMS	Positive Categories	% Accept	Mean	S.D.
1. The school should help the child always to try to win or be best.	23456	88	3.25	1.45
2. The school should help the child to strive to excel.	56	75	4.97	1.02
3. The school should help the child to have confidence in his own abilities.	6	54	5.49	.61
4. The school should help the child to think for himself.	6	56	5.51	.63
5. The school should help the child to achieve as much as he can.	6	56	5.50	.63
6. The school should help the child to be original.	6	38	5.16	.81
7. The school should help the child to learn the value of success.	6	28	4.88	.96
8. The school should help the child to trust his own judgment.	6	21	4.81	.99
9. The school should help the child to have respect for the opinions of authorities.	1234	17	1.81	.87

% =	2.8	11.6	24.4	5.5	4.6	14.7	9.9	10.5	12.9	2.5
Score =	0	1	2	3	4	5	6	7	8	9

Reproducibility = .905 Zero point = 1

Mean = 4.52 Standard deviation = 2.57

Table 8d

VAL-ED - Teacher-child: Control Scale

Scale Name: The teacher should regulate completely classroom lessons and activities.

Short Title: TC: Control

Respondents: All

(All items are to be responded to with one of six numbers. See details of scaling in Appendix.) The numbers mean:

1. Strongly disagree
2. Disagree
3. Mildly disagree
4. Mildly agree
5. Agree
6. Strongly agree

ITEMS	Positive Categories	% Accept	Mean	S.D.
1. A teacher should allow children great initiative.	12345	84	2.41	1.03
2. A teacher should let the children decide many classroom matters by majority decision.	1234	73	3.47	1.38
3. A teacher should always be in charge of the children's activities.	3456	63	3.38	1.39
4. A teacher should make sure that all children are kept busy with planned activities at all times.	456	62	3.90	1.38
5. A teacher should let children try their own way even if they make mistakes.	1234	51	2.62	1.07
6. A teacher should always give complete directions.	6	41	4.99	1.13
7. A teacher should exercise firm discipline at all times.	6	33	4.84	1.12
8. A teacher should plan all lessons.	6	27	4.64	1.26
9. A teacher should encourage children to make suggestions for new ways of conducting classes.	12	18	3.05	1.26

% =	5.9	7.8	11.2	9.5	11.9	18.3	9.5	8.1	11.1	6.1
Score =	0	1	2	3	4	5	6	7	8	9

Reproducibility = .861 (Quasi-scale) Zero point = 5

Mean = 4.51 Standard deviation = 2.54

Table 8e

VAL-ED - Teacher-child:affection scale

Scale Name: The teacher should be personally friendly and warm toward the children.

Short Title: TC: Affection

Respondents: All

(All items are to be responded to with one of six numbers. See details of scaling in Appendix.) The numbers mean:

1. Strongly disagree	4. Mildly agree
2. Disagree	5. Agree
3. Mildly disagree	6. Strongly agree

ITEMS	Positive Categories	% Accept	Mean	S.D.
1. A teacher should always act warm and friendly to the children, even those he dislikes.	56	84	5.17	.93
2. A teacher should get to know the children outside school.	3456	82	3.79	1.29
3. A teacher should express affection toward the children.	456	74	4.07	1.26
4. A teacher should be a personal friend to the students.	456	62	3.72	1.35
5. A teacher should express his feelings openly to children.	3456	50	2.75	1.25
6. A teacher should encourage children to confide their problems in him.	56	41	4.11	1.14
7. A teacher should not become personal with the children.	123	32	2.87	1.32
8. A teacher should not express personal feelings to the children.	123	30	2.82	1.27
9. A teacher should not become emotionally involved with the children.	123	24	2.60	1.30

% =	3.8	6.8	9.6	12.4	14.9	13.2	12.5	7.2	7.8	11.2
Score =	0	1	2	3	4	5	6	7	8	9

Reproducibility = .860 (Quasi-scale) Zero point = 5

Mean = 4.47 Standard deviation = 2.64

Table 8f

VAL-ED - Teacher-community: inclusion scale

Scale Name: The teacher should participate in community activities and be encouraged to do so by community members.

Short Title: TCm: Inclusion

Respondents: All

(All items are to be responded to with one of six numbers. See details of scaling in Appendix.) The numbers mean:

1. Strongly disagree	4. Mildly agree
2. Disagree	5. Agree
3. Mildly disagree	6. Strongly agree

ITEMS	Positive Categories	% Accept	Mean	S.D.
1. People in the community should discourage teachers from participating in community affairs.	12	84	5.07	.81
2. A teacher should be active in PTA (or parents' club.)	456	84	4.44	1.20
3. People in the community should encourage teachers to stick to teaching and not get involved in civic activities.	12	72	4.75	1.04
4. People in the community should invite teachers to participate in community affairs.	56	66	4.68	.86
5. A teacher should stick to teaching and not get involved in local affairs.	12	52	4.29	1.24
6. People in the community should seek out teacher participating in local activities.	56	49	4.30	1.09
7. A teacher should stay out of community activities.	1	31	5.01	.94
8. A teacher should participate in community functions.	6	23	4.88	.96
9. A teacher should be active in community affairs.	6	16	4.67	.93

% =	8.0	3.4	10.7	9.9	11.9	9.9	18.7	6.9	7.1	13.0
Score =	0	1	2	3	4	5	6	7	8	9

Reproducibility = .904 Zero point = 0

Mean = 4.57 Standard deviation = 2.37

Table 8g

VAL-ED - Teacher-community: control scale

Scale Name: The teacher should conform to the dominant values of the community.

Short Title: TCm: Control

Respondents: All

(All items are to be responded to with one of six numbers. See details of scaling in Appendix.) The numbers mean:

1. Strongly disagree	4. Mildly agree
2. Disagree	5. Agree
3. Mildly disagree	6. Strongly agree

ITEMS	Positive Categories	% Accept	Mean	S.D.
1. A teacher should be careful not to antagonize the important people in the community.	23456	86	2.93	1.33
2. A teacher should make sure his political activities are acceptable to the majority of the community.	23456	76	2.54	1.38
3. A teacher should not drink or swear in public.	456	70	4.23	1.49
4. A teacher should conform to the dominant values in the community.	456	66	3.78	1.23
5. A teacher should live his life any way he wishes once away from school.	123	51	3.48	1.51
6. A teacher should be a nonconformist if he feels like it.	123	46	3.38	1.27
7. A teacher should live his personal life as he chooses.	123	31	2.93	1.32
8. A teacher should make sure his personal life is beyond reproach.	6	20	4.48	1.22
9. A teacher should never give the appearance of nonconformity.	56	15	2.83	1.27

% =	7.8	5.5	9.2	9.1	16.6	12.0	12.5	14.6	7.3	4.8
Score =	0	1	2	3	4	5	6	7	8	9

Reproducibility = .879 (Quasi-scale) Zero point = 6

Mean = 4.75 Standard deviation = 2.59

Table 8h

VAL-ED - Teacher-community: affection scale

Scale Name: The teachers and people in the community should be personally friendly with each other.

Short Title: TCm: Control

Respondents: All

(All items are to be responded to with one of six numbers. See details of scaling in Appendix.) The numbers mean:

1. Strongly disagree
2. Disagree
3. Mildly disagree
4. Mildly agree
5. Agree
6. Strongly agree

ITEMS	Positive Categories	% Accept	Mean	S.D.
1. A teacher should choose some of his closest friends from the local community.	3456	82	3.80	1.25
2. People in the community should keep a proper social distance from teachers.	123	79	4.33	1.16
3. A teacher should not share his personal life with members of the community.	1234	77	3.75	1.41
4. A teacher should not be too friendly with people in the community.	12	67	4.64	1.06
5. People in the community should consider teachers as possible close friends.	56	56	4.42	1.07
6. People in the community should try to get to know teachers personally.	56	49	4.34	1.06
7. People in the community should not be too personal with teachers.	12	30	3.61	1.26
8. People in the community should invite teachers to their homes.	56	35	3.98	1.14
9. People in the community should be free to confide their problems to teachers.	6	15	4.32	1.20

% =	5.3	6.4	5.6	12.1	15.2	11.7	12.3	7.8	15.9	7.2
Score =	0	1	2	3	4	5	6	7	8	9

Reproducibility = .884 (Quasi-scale) Zero point = 3

Mean = 4.62 Standard deviation = 2.74

Table 8i

VAL-ED - Administrator-teacher: Inclusion scale

Scale Name: The administrator should take account of teachers' opinions when making policy decisions.

Short Title: AT: Inclusion

Respondents: All

(All items are to be responded to with one of six numbers. See details of scaling in Appendix.) The numbers mean:

1. Strongly disagree	4. Mildly agree
2. Disagree	5. Agree
3. Mildly disagree	6. Strongly agree

ITEMS	Positive Categories	% Accept	Mean	S.D.
1. A school administrator should take account of all teachers' points of view on administrative matters.	3456	83	4.01	1.32
2. A school administrator should ask for the opinion of teachers on important administrative matters.	456	79	4.34	1.30
3. A school administrator should keep administrative matters separate from teaching.	1234	72	3.50	1.33
4. A school administrator should handle most administrative matters without consulting teachers.	123	60	3.85	1.38
5. A school administrator should try to keep his decisions unbiased by teacher opinion.	123	51	3.42	1.40
6. A school administrator should regularly consult teachers on policy matters.	56	47	4.13	1.24
7. A school administrator should work relatively independently of teachers.	12	42	4.07	1.18
8. A school administrator should make his decisions and then ask the teachers for their opinion.	1	25	4.76	1.11
9. A school administrator should have teacher representation on all administrative committees.	6	20	4.44	1.25

% =	7.6	6.2	8.7	11.1	11.3	13.3	9.1	14.7	7.7	9.8
Score =	0	1	2	3	4	5	6	7	8	9

Reproducibility = .867 (Quasi-scale) Zero point = 5

Mean = 4.32 Standard deviation = 2.46

Table 8j

VAL-ED - Administrator-teacher: control scale

Scale Name: The administrator should control the activities of the teachers both in the classroom and in the community.

Short Title: AT: Control

Respondents: All

(All items are to be responded to with one of six numbers. See details of scaling in Appendix.) The numbers mean:

1. Strongly disagree	4. Mildly agree
2. Disagree	5. Agree
3. Mildly disagree	6. Strongly agree

ITEMS	Positive Categories	% Accept	Mean	S.D.
1. A school administrator should require an adequate answer from any teacher against whom a serious charge has been made, whether or not it is substantiated.	3456	84	4.25	1.41
2. A school administrator should retain complete authority over the activities of the teacher.	23456	78	2.50	1.29
3. A school administrator should allow the teacher the greatest freedom to teach the method or content he thinks best, no matter how controversial or unpopular.	123	72	4.13	1.28
4. A school administrator should allow a teacher to teach anything the teacher believes to be true, no matter how unpopular.	12	61	4.50	1.19
5. A school administrator should fire a teacher whose morality is questionable, even if it doesn't affect his classroom behavior.	56	42	3.96	1.36
6. A school administrator should ignore a teacher's outside activities when considering retention of the teacher.	12	45	4.02	1.29
7. A school administrator should control the outside activities of a teacher who does not adhere to the values of the community.	456	24	2.60	1.24
8. A school administrator should fire a teacher who teaches controversial ideas.	456	23	2.73	1.23
9. A school administrator should fire a teacher for any reason he feels is sufficient.	456	15	2.10	1.29

% =	4.8	6.3	12.6	11.8	18.7	10.1	15.7	7.9	7.9	3.7
Score =	0	1	2	3	4	5	6	7	8	9

Reproducibility = .874 (Quasi-scale) Zero point = 3

Mean = 4.83 Standard deviation = 2.52

Table 8k

VAL-ED - Administrator-teacher: Affection scale

Scale Name: The administrator should be personally close with teachers and express his feelings openly.

Short Title: AT: Affection

Respondents: All

(All items are to be responded to with one of six numbers. See details of scaling in Appendix.) The numbers mean:

1. Strongly disagree	4. Mildly agree
2. Disagree	5. Agree
3. Mildly disagree	6. Strongly agree

ITEMS	Positive Categories	% Accept	Mean	S.D.
1. A school administrator should not express his feelings openly to teachers.	1234	84	3.84	1.24
2. A school administrator should encourage close and informal relations with teachers.	3456	83	3.78	1.22
3. A school administrator should not become personally involved with teachers.	1234	68	3.26	1.26
4. A school administrator should express the affection he feels for teachers.	456	63	3.69	1.25
5. A school administrator should encourage a teacher to confide in him.	56	47	4.18	1.23
6. A school administrator should not become personal friends with teachers.	12	38	3.99	1.15
7. A school administrator should be personal friends with teachers.	56	28	3.81	1.12
8. A school administrator should always behave impoersonally toward teachers, even if he feels affectionate toward some of them.	12	26	3.37	1.39
9. A school administrator should be friendly but impersonal with teachers.	123	23	2.58	1.21

% =	6.3	6.8	9.5	12.3	16.3	16.2	6.0	9.5	5.1	11.6
Score =	0	1	2	3	4	5	6	7	8	9

Reproducibility = .883 Zero point = 4

Mean = 4.87 Standard deviation = 2.66

Table 81

VAL-ED - Administrator-Community: Inclusion Scale

Scale Name: The administrator and the people in the community should be involved jointly in school and community affairs.

Short Title: ACm: Inclusion

Respondents: All

(All items are to be responded to with one of six numbers. See details of scaling in Appendix.) The numbers mean:

1. Strongly disagree	4. Mildly agree
2. Disagree	5. Agree
3. Mildly disagree	6. Strongly agree

ITEMS	Positive Categories	% Accept	Mean	S.D.
1. People in the community should invite school administrators to local organizations.	56	79	4.88	.85
2. People in the community should invite school administrators to join civic committees.	56	76	4.85	.86
3. A school administrator should take an active part in community affairs.	56	69	4.77	.88
4. People in the community should take an active interest in school activities.	6	42	5.27	.78
5. People in the community should find out what's happening in the schools.	6	44	5.29	.81
6. A school administrator should invite the community often to see the school program.	6	40	5.19	.85
7. A school administrator should include the community in school activities.	6	25	4.86	.95
8. People in the community should include school administrators in community functions.	6	20	4.92	.80
9. A school administrator should have community representation on major school committees.	6	15	4.33	1.29

% =	14.9	4.8	9.4	25.0	4.3	9.8	8.7	7.9	7.0	7.7
Score =	0	1	2	3	4	5	6	7	8	9

Reproducibility = .912 Zero point = 0

Mean = 3.93 Standard deviation = 2.32

Table 8m

VAL-ED - Administrator-Community: Control scale

Scale Name: The desires of the community should determine school policy.

Short Title: ACm: Control

Respondents: All

(All items are to be responded to with one of six numbers. See details of scaling in Appendix.) The numbers mean:

1. Strongly disagree	4. Mildly agree
2. Disagree	5. Agree
3. Mildly disagree	6. Strongly agree

ITEMS	Positive Categories	% Accept	Mean	S.D.
1. People in the community should take responsibility for the operation of the schools by granting or withholding money requested.	23456	83	2.98	1.52
2. A school administrator should determine the school program by himself and consider community opinion only if it is volunteered.	123	79	4.30	1.14
3. A school administrator should never go ahead with an activity he suspects the community opposes.	3456	72	3.30	1.23
4. People in the community should watch the administrators carefully and demand removal if dissatisfied.	3456	64	3.20	1.35
5. A school administrator should be sure the school program is acceptable to the community.	56	60	4.56	.96
6. A school administrator should never do anything that a sizeable or important segment of the community is against.	456	43	3.28	1.22
7. A school administrator should seek the advice of the community but decide school problems for himself.	1234	34	2.35	1.18
8. A school administrator should follow the wishes of the community with regard to school programs.	56	23	3.59	1.24
9. A school administrator should consider the opinion of the community, but make his own final decision.	1234	19	1.99	.96

% =	4.9	4.6	11.0	8.9	13.4	16.3	16.2	9.9	6.7	7.7
Score =	0	1	2	3	4	5	6	7	8	9

Reproducibility = .859 (Quasi-scale) Zero point = 4

Mean = 4.62 Standard deviation = 2.59

Table 8n

VAL-ED - Administrator-Community: Affection Scale

Scale Name: The administrator and the people in the community should be personally friendly with each other.

Short Title: ACm: Affection

Respondents: All

(All items are to be responded to with one of six numbers. See details of scaling in Appendix.) The numbers mean:

1. Strongly disagree	4. Mildly agree
2. Disagree	5. Agree
3. Mildly disagree	6. Strongly agree

ITEMS	Positive Categories	% Accept	Mean	S.D.
1. People in the community should try to get to know the administrators personally.	456	83	4.36	1.06
2. A school administrator should accept invitations to visit parents.	456	76	4.15	1.16
3. A school administrator should become friendly with people in the community.	56	74	4.84	.77
4. A school administrator should get to know community people personally.	56	66	4.68	.91
5. A school administrator should choose some close friends from the community.	56	42	4.13	1.11
6. People in the community should invite administrators to their homes.	56	44	4.19	1.09
7. People in the community should not get too personal with the administrators.	123	37	3.20	1.23
8. People in the community should be friendly to administrators but not too personally close.	123	28	2.84	1.22
9. People in the community should keep a proper distance from school administrators.	1	19	4.74	1.00

% =	8.3	6.6	10.6	8.5	16.3	9.2	12.8	8.1	11.4	7.6
Score =	0	1	2	3	4	5	6	7	8	9

Reproducibility = .888 Zero point = 2

Mean = 3.70 Standard deviation = 2.65

The intercorrelations among VAL-ED scales are presented in Table 9.

Table 9

Intercorrelations among VAL-ED scales

Scale Titles	Imp. 1	Mind 2	SC: C 3	TC: C 4	TC: A 5	TCm: I 6	TCm: C 7	TCm: A 8	AT: I 9	AT: C 10	AT: A 11	ACm: I 12	ACm: C 13	ACm: A 14
1	.	-16	24	-07	01	10	-06	08	04	-06	05	14	-03	09
2	-16	.	-11	09	-10	-17	-11	-16	-13	-03	-16	-24	-09	-15
3	24	-11	.	06	13	17	-05	06	16	01	11	28	-01	10
4	-07	09	06	.	-09	-06	03	-04	00	03	-02	03	07	-06
5	01	-10	13	-09	.	10	-01	15	11	-08	30	07	02	16
6	10	-17	17	-06	10	.	01	45	15	10	20	46	08	39
7	-06	-11	-05	03	-01	01	.	-06	-09	32	-07	05	20	01
8	08	-16	06	-04	15	45	-06	.	15	-05	32	36	04	59
9	04	-13	16	00	11	15	-09	15	.	-14	21	17	07	14
10	-06	-03	01	03	-08	10	32	-05	-14	.	-07	10	15	06
11	05	-16	11	-02	30	20	-07	32	21	-07	.	19	02	32
12	14	-24	28	03	07	46	05	36	17	10	19	.	08	38
13	-03	-09	-01	07	02	08	20	04	07	15	02	08	.	08
14	09	-15	10	-06	16	39	01	59	14	06	32	38	08	.

The primary result of these correlations is that affection and inclusion scales tend to go together much more than either goes with control. This pattern of intercorrelation is elaborated and extended in the discussion below on the factor analysis of all individual measures.

Parental Attitudes

An important focus for the study of administrator behavior is the relation of his present behavior on the job to his past behavior, during earlier periods of his life. If the pattern of an administrator's interpersonal behavior can be traced back to its origins, it may allow for a much better understanding of his present performance. This is especially true of his interpersonal relations. As mentioned above, an administrator's behavior and feelings toward authority figures or toward female subordinates may be better understood by reference to his early relation with his father or older brother, in the first case, and with his younger sisters in the second case.

A description of the theoretical basis for measuring childhood interpersonal relations will clarify the requirements of a questionnaire for this area and justify the potential usefulness of such an instrument. But justification of the usefulness of measuring childhood relations with parents depends upon the hypothesized connection between these relations and adult behavior. To explore these a return to the FIRO theory is helpful.

The postulate of relational continuity presented in FIRO (p. 81) asserts a consistency between interpersonal behavior and feelings in childhood and in adult life. Since this 1958 presentation there has been considerable theoretical development of these ideas and of the question of the origin of adult behavior in general, and specifically of administrative behavior.

Origins of administrative behavior. Where and when does an individual learn his behavior and feeling patterns toward the individuals with whom he interacts -- superiors, subordinates, men, women, colleagues, etc.? Much psychological theory agrees that the basic behavior patterns are largely determined in the early years of life; probably about the first six years.

How does a child know what to do in the variety of situations that confront him, especially when these situations are more complex than simple physiological reactions? Whence comes his behavior repetoire? The sources of behavior alternatives seem to be three:

1) Random and instinctive behavior -- unlearned reactions to internal and external stimulation.

2) Proscriptions, usually from parents, including:
   a) direct parental demands for certain types of behavior, and
   b) parents' desires for child's behavior, as perceived by the child.

3) The child's observation and perception of his own behavior and others, including:
   a) observing his own behavior and feelings; for example, his own delight when his mother gives him undivided attention;
   b) observing other people's behavior and feelings; for example, the experience of his father's punishment of him;
   c) observing others behaving and feeling toward each other; for example, his mother and father fighting and then making up.

In short, a child's behavior alternatives come from instinctive or from random behavior, form what people tell him to do, and from what he observes people doing and feeling. As he grows he maintains or eliminates these initial behaviors as a function of the satisfaction (reward, anxiety reduction) and the dissatisfaction (punishment, anxiety induction) brought about as a result of particular behavior.

The concern of the present study is with 3) above: the relation between the behavior observed by a child in his environment and his later adult behavior as an administrator. Specifically, two hypotheses follow from the FIRO postulate of relational continuity:

Hypothesis I. There is a positive correlation between behavior and feelings in the childhood situation and the appropriate adulthood situation in the interpersonal areas of inclusion, control and affection.

Hypothesis II. The similarity between the childhood and adulthood situations is greatest when the sex and status similarity between the two situations is greatest, and diminishes as the similarity decreases. (For example, the transference from father to son is greatest for male boss to male employee, and gets progressively less to relations of male boss to female employee, male employee to female boss, etc.)

These hypotheses will be defined and explicated with increasing specificity throughout the remainder of this discussion. The basic situation may be stated in schematic terms. The child, who shall be called ego (E), observes the behavior or feelings of an individual (the actor, A) toward another person (the target of the behavior, T). At a later time, for example in adulthood, ego participates in an actor-to-target situation, either as actor or target. The hypotheses state the general relation between these two acts (actor to target).

For the following analysis, consider the carryover of behavior from early childhood (time 1) to the present adult stage in which the administrative behavior under study is occurring (time 9). (This numbering leaves intervening time periods -- later childhood, adolescence, young adulthood -- for later study.)

The basic relational continuity situation:

$$(A_1 \rightarrow T_1) \xrightarrow[p]{} (A_9 \rightarrow T_9)$$

where A = actor
$\rightarrow$ = behaves or feels toward
T = target
$\longrightarrow$ = implies with probability p
and subscripts 1 and 9 indicate time periods of early childhood and adulthood, respectively.

In words, if an actor in childhood (a child) behaves toward a target (say parent) in a particular way, then there is a certain likelihood that when the child becomes an adult he will behave toward a similar target in a like fashion.

This schema will be used for the explication of the hypotheses. The following explanation will proceed by describing: 1) the specific persons defining A and T; 2) the mechanisms through which relational continuity is hypothesized to operate; 3) the dimensions and levels of interpersonal behavior/feelings involved in the continuity; 4) one measurement technique.

Actors and Targets. Hypothesizing the continuity of behavior from the ($A_1 \rightarrow T_1$) interaction to the ($A_9 \rightarrow T_9$) interaction requires specification of the various types of actor-target relations. Dimensions which are useful for describing the A-T relation, in the sense that they are relevant to the hypothesis of relational continuity must be specified. For example, to assert that sex-type is an important dimension is to imply that as a result of observing his father's relation to his mother, a son would be more likely to carry over his father's behavior toward a female (that is, someone of the same sex as his mother), than he would toward a male.

In the psychological literature on this topic, two dimensions seem especially relevant: 1) the sex of each member of the relation, male (M) or female (F); and 2) relative status with regard to decision-making -- either the actor is above (a) the target in status, such as father, boss, teacher; or the actor is on the same (s) status level as the target, such as twin brother, colleague, associate; or the actor is below (b) the target in status, such as son, employee, student. Thus, each of the four individuals involved (A_1, T_1, A_9, T_9) can be male or female, and each relation ($A_1 \rightarrow T_1$) and ($A_9 \rightarrow T_9$) can be above, same, or below in status.

For each of these formal possibilities, the salient figures for a child must be specified as he progresses through life. Table 10 lists these different salient figures for each age period based on varying the sex (M, F) and status (a, s, b) variables. The present investigation is concerned only with the early childhood and adult periods.

Table 10

Salient Figures for Each Time Period

	Early Childhood	Late Childhood	Adolescence	Young Adulthood	Adulthood
Above Male	Older brothers Older boys Father	Older brothers Older boys Father Men teachers	Older brothers Adult men Father Men teachers	Older brothers Father Older men teachers	Older brothers Father Men bosses
Above Female	Older sisters Older girls Mother	Older sisters Older girls Mother Women teachers	Older sisters Adult women Mother Women teachers	Older sisters Mother Older women teachers	Older sisters Mother Women bosses
Same Male	Brother Boy playmates	Brother Boy playmates	Brother Boy playmates	Brother Men classmates Spouse	Brother Men colleagues Spouse
Same Female	Sister Girl playmates	Sister Girl playmates	Sister Girl classmates	Sister Women classmates Spouse	Sister Women colleagues Spouse
Below Male	Younger brothers Younger boys	Younger brothers Younger boys	Younger brothers Little boys	Younger brothers Little boys Sons	Younger brothers Sons Men subordinates
Below Female	Younger sisters Younger girls	Younger sisters Younger girls	Younger sisters Little girls	Younger sisters Little girls Daughters	Younger sisters Daughters Women subordinates

During the early childhood period, the primary people serving as models for the young child are those in his immediate family -- father, mother, and brothers and sisters, including older, younger, and the same age (defined as less than two years difference). For early childhood, the values of A and T shall be restricted to these individuals. The only exceptions occur when there is a very strong surrogate; for example, if a person were without a parent, and a grandparent, uncle, or stepmother served as parent-substitute, or if a niece of nephew lived with the family as a sibling-substitute.

The post-childhood periods see a parade of people with the same sex and status relations as the original family -- teacher, boss, children, spouse, etc. The figures come primarily from occupational and own family, including male and female bosses, male and female subordinates, male and female colleagues, spouse, sons, and daughters.

Mechanisms of relational continuity. The hypotheses as stated thus far only assert a continuity between childhood and adult behavior. They do not specify the precise relation nor the mechanisms through which this continuity occurs. In examining the various combinations of people and relations in the basic situation, certain mechanisms emerge. These mechanisms, which seem to be similar to some well known psychological mechanisms, can be generated simply by placing ego at various points in the basic situation. In this schema, ego must be either participant (i.e., A_1 or T_1) or observer in the childhood relation, and participant (i.e., A_9) in the adulthood relation, as shown in Table 11. These mechanisms will now be described and related to similar mechanisms in the psychological literature.

Table 11

Mechanisms of relational continuity
(All possible placements of ego in basic situation)

	Childhood (1)		Adulthood (9)		
	Actor	Target	Actor	Target	Resulting Mechanism
1)	Ego	T_1	Ego	T_9	Transference
2)	Ego	T_1	A_9	Ego	Reciprocity
3)	A_1	Ego	Ego	T_9	Impact identification
4)	A_1	Ego	A_9	Ego	Impact elicitation
5)	A_1	T_1	Ego	T_9	Vicarious identification
6)	A_1	T_1	A_9	Ego	Vicarious elicitation
7)	A_1	T_1	A_9	T_9	Perception transference

1. Transference. $(E_1 \rightarrow T_1) \xrightarrow[p]{} (E_9 \rightarrow T_9)$ Ego relates (this word shall be used to mean behaves/feels) toward a target in childhood and relates similarly toward a target in adulthood. For example, a child feels exploited and manipulated by his father, and when he becomes a teacher he has feelings of being exploited by his principal and superintendent.

It is interesting to compare this formulation with the concept of transference as presented by the Freudians and neo-Freudians. The original notion of Freud had to do with transfer only to the psychoanalyst:

> As the patient repeats in his relations with the analyst the infantile relations with his parents...(This is the classical Freudian position; transference is understood more broadly by some schools.) (Monroe, 1955, p. 316)
>
> Freud emphasized the idea that the patient transfers to the analyst the attributes of the significant persons of his childhood (usually the parents) and quite directly repeats his childhood experience. (Monroe, 1955, p. 518)
>
> As the most important relationship of the child is that with his parents, the relationship between patient and analyst established in the transference becomes analogous to, or at times, even similar to the patient's relationship with his parents in childhood. The patient endows the analyst with the same magic powers and omniscience which, in childhood, he attributed to his parents. The traits of submissiveness and rebellion, in transference, likewise reflect the attitude of the child to his parents...Since the neurotic repeats, "transfers" into the analytic situation, everything that has not been discharged, the transference can be a positive as well as a negative one; he may love the analyst and also hate him. (Nunberg, 1955, p. 246)

Nunberg feels that a readiness for transference is always present but it is greater in the neurotic since he suffers more from frustrations, inhibitions and repressions.

Modern writers have extended the transference mechanism beyond the analytic situation to all interpersonal relations:

> In Freud's latest summary of his theories and findings he stated:...the patient sees in his analyst the return -- the reincarnation -- of some important figure out of his childhood or past, and consequently transfers on to him feelings and reactions that undoubtedly apply to this model.
>
> Actually transference phenomena also occur outside the analytic chamber, and are frequently characteristics of interpersonal ties in group relations. As Eissler has pointed out, transferences appear in hypnotic treatment, in mass phenomena, and in everyday life. (Scheidlinger, 1952, p. 80)
>
> Everyday life Fenichel also found full of transference situations. Generally speaking, people tend to interpret current experiences in terms of earlier ones. (Scheidlinger, 1952, p. 82)

Very few empirical studies have been done in this area. Elder (1963) found that children who were brought up with autocratic parents who did not allow the child to express his views on subjects regarding his behavior nor regulate his own behavior developed into adolescents who unconditionally surrendered their own interests and obeyed without understanding, as they had done as children. And Cox (1962) also found signs of transference from the home to peer groups in that reputed aggression was high for those boys who have rejected one or both parent figures.

Thus, the formulation given here bears a close resemblance to the psychoanalytic notion of transference as it has evolved through the last two decades. The term transference will be used here in the sense defined in Table 11, not implying any other previous meanings for the term.

2. Perceptual transference. Actor and target are observed by ego during childhood, and ego observes the same relation in adulthood. This mechanism refers to a determinant of perception, stating essentially that given an adult relation a person will tend to see that relation, in part, in terms of his previous experience with such relations. For example, if his father tended to ignore his younger sister and felt that she was unimportant, the person may tend to perceive the principal's orientation toward teachers is to ignore them and to feel they are insignificant. This is a transference of perception rather than of behavior and feelings as in the previous situation.

Although it appears very interesting this phenomenon will not be dealt with in the present study.

3. Identification. $(A_1 \rightarrow E_1) \xrightarrow[p]{} (E_9 \rightarrow T_9)$ Ego is related to by an actor in childhood, and relates similarly toward a target in adulthood. For example, a father acts in an authoritarian manner toward his son, and the son, when he becomes a superintendent, acts in an authoritarian manner toward his principals.

Again, it is interesting to compare this concept with the psychoanalytic notion:

> While there are some differences as to how the term [identification] is applied, it generally implies that a child gives its emotional allegiance to one of its parents and attempts to duplicate in its own life the ideals, attitudes, and behavior of the parent with whom it is identifying. (Stoke, 1950, p. 163)

> The human being does not learn everything through trial and error. "Identification" is another method of learning a process by which the growing child takes over behavior patterns and attitudes from adults. (Alexander and Ross, 1952, p. 11)

> It is by this mechanism (identification) that parental dictates become internalized. The child thus in a manner of speaking becomes the parent and follows the parental admonition as if it came entirely of later identifications in determining character, but he (Freud) calls the later identifications "later editions of the parents". (Monroe, 1955, p.88)

> Identification as it typically operates is unconscious, and the person is not aware of the fact that he is modifying his own behavior to pattern it after that of another person. (Symonds, 1946, p. 319)

Bronfenbrenner (1960) divides prominent theories of identification into a) those that call it a defense against an aggressor by emulating them, as when the victim is dependent upon the aggressor and cannot escape his influence so that he must model himself after him; b) those that say it is a response to an absent or depriving loved person by seeking to replace him in one's own behavior; for example, when the child is motivated to secure his mother's nurturing responses and imitates her affectionate attitudes and gestures himself to secure at least partial gratification of his drive and c) those that talk of a response to a parent who is a loved and prestigeful person whom the child is reward for emulating...(p. 35)

Hence, the present explication of the term seems consistent with the psychoanalytic notion, being narrower in that it makes no commitment to the causes or consciousness of the mechanism as does the psychoanalytic concept, and being more specific in that it asserts that identification takes place within an interpersonal relation and in the areas of inclusion, control, and affection.

4. Impact identification. means that ego has participated in the childhood interaction, that is, he *is* T_1. For example, a son strongly disciplined by his father identifies with his father and as a principal is a strong disciplinarian of his male teachers.

Maccoby (1961) tries to explain how this covert learning takes place in the child. She says,

> There is another class of behavior which we believe the child learns, even though he seldom performs the behavior overtly and is therefore seldom directly reinforced for it. This is the behavior which forms part of the adult role...(p. 494).

She says that the child's motives to learn this behavior are 1) the child's desire to reproduce in fantasy events that have been reinforcing (even if it is the parents who are rewarded and not the child); 2) a high degree of parental control (she feels that if the child is not required to get parental permission for most of the steps that he follows in pursuing his goals then he will not take parental reactions into account in making his plans and will not engage in extensive covert practice) and, 3) to obtain vicarious satisfaction by pretending to be a person who is enjoying rewards that are denied the child. She says that these elements of adult role behavior will emerge as the child interacts with his age-mates. Specifically a child's adult role repetoire should be called out in relation to his agemates whenever one of his agemates provides the stimulus by acting out some aspect of a reciprocal child role. Thus, as an example, if an agemate solicits nurturance responses, the child will make an adult role nurturant response, provided that his is well established through earlier covert role-playing.

Her results supported this in that high restrictive mothers had strong-enforcer sons, that is, mothers that had fairly strict rule enforcement during the child's earlier years, in the sense that they were restrictive about a variety of behaviors, had sons who later reinforced rules in their peer groups. When parents were permissive no predictions could be made...children ranging from very rule-enforcing to not at all. Other variables that seemed to make the identification more or less effective were:

1. parents who were warm and nurturant towards their children had boys who were more similar to themselves than parents that were less warm;

2. there was a tendency for the boy's early childhood level of dependency to make a difference in the closeness with which his rule enforcing behavior was matched to that of his parents;

3. the child who was dependent on emotional support from his agemates at school, in the sense of being anxious to regain their approval when it was withdrawn took new models. The relationship between the mother's strictness and her son's tendency to enforce rules on peers was weaker when the boy was dependent on his peers for support;

4. the relationship between maternal punitiveness and the daughter's tendency to enforce rules was also greater if the girl was not dependent on the group;

Thus, the set of adult-like behaviors acquired during early childhood found their expression during interaction with peers.

In a longitudinal study over two generations Bronson, et al. (1959) found that mothers more often exercise strong authority in the home when they remember their mother as having done so and they also found that fathers will emulate the same sex parent also but in the area of affection only. Part of this difference in sexes seems to be due to the fact that more sons than daughters perceive their father in strong authority roles and in general both sexes seem to be more accurate regarding the mother's authority than the fathers. Thus the sons in seeing the fathers as so powerful tend to try not to be that strict. Accuracy in perception of authority seemed to be unrelated to accuracy in perception of affection and both boys and girls couldn't regard their mothers as simultaneously high in authority and affection (even if she was). Affection was more often misperceived for mothers. Bronson et al. also found that more mothers than fathers are rated as high in authority (although both seem to have the same amount in the families studied) and involvement with one parent seemed to show a tendency to relate negatively to some characteristic in the other. This study lends support for the selection of affection as a dimension in which identification operates.

Tyler et al. (1962) also did a study in which they measured the parental and child needs in terms of, 1) recognition-status: whether one is competent or good, the need to gain social position (similar to inclusion); 2) love and affection: the need for acceptance and liking by others (similar to affection); 3) dominance: the need to direct or control others (similar to control); protection-dependency: the need to have another person or group of people prevent frustration or punishment and satisfy one's needs (similar to inclusion-affection); and 5) independence: the need to make one's own decisions, to rely on oneself (similar to inclusion-control). Within each need category an assessment was made for each parent and each child of the relative importance of the need reinforcement and of the probability held by that subject that his behaviors would lead to positive reinforcement. Here too, love and affection and dominance-control were on opposite ends of the continuum at least for girls. Dominance and love and affection needs were negatively related for fathers, mothers and daughters but positively related for sons. For mothers, fathers and daughters there was also a positive relation between recognition-status needs and dominance needs and expectancies but no such relation was found for boys. Thus boys seem to see affection coming more from control than from being included whereas girls do the opposite. Elder (1963) also found that parents that were democratic and encouraged the child to participate in discussing views relevant to their behavior were much more often modeled than the autocratic or permissive parents. And Slater (1962) using two measures for emotional supportiveness and warmth and inhibitory demands and discipline in the parents and the MMPI scales for ego-weakness-strength, introversion-extroversion, social-withdrawal-participation, and impulsivity-intellectual control for the children, also found impact identification in that strict-punitive parents tended to have impulsive, acting-out, extrapunitive children; whereas tolerant parents tended to produce more well-adjusted children.

5. Vicarious identification means that the ego has observed two other people in interaction (he is neither A_1 nor T_1) and has identified with the actor. For example, he identifies with his father's treatment of his sister and behaves, as an adult principal, toward his female teachers as his father did toward his sister.

This mechanism was demonstrated in a study by Bandura, et al. (1961) in which they found that children readily imitated behavior exhibited by an adult model and generalized this behavior to others. The effects of this study provided strong evidence that observation of cues provided by the behavior of others is one effective means of eliciting certain forms of behavior for which the original probability is very low (aggression). The subjects, given an opportunity to observe aggressive models, later reproduced a great deal of the aggressive behavior. The fact that the subjects expressed their aggression in ways that clearly resembled the novel patterns expressed by the actors provides evidence for the occurrence of learning vicariously. Subjects exposed to the quiet models were more inhibited and unresponsive than subjects on the aggressive condition. Mere observation of aggression, regardless of the quality of the model-subject relationship was a sufficient condition for producing imitative aggression.

6. Elicitation. $(A_1 \rightarrow E_1) \xrightarrow[6]{} (A_9 \rightarrow E_9)$ Ego is related to in childhood in a certain way, and elicits the same relation from others when he becomes an adult. For example, his older brother makes fun of his competence and doesn't take him seriously. When he becomes a principal, his superiors also treat him this way. There is continuity in the type of behavior he elicits from other people.

The concept of elicitation (the case described is an example of impact elicitation) is somewhat similar to Leary's (1957) notions of "provoking" behavior, or "training" others to respond in certain ways. Leary emphasizes the point that people act in certain ways that provoke particular responses:

> What we are saying here to a human being is...your own interpersonal behavior has, more than any other factor, determined the reception you get from others. Your slowly developing pattern of reflexes has trained others and yourself to accept you as this sort of person -- to be treated in this sort of way. You are the manager of your own destiny. (p. 117)

While Leary does not go into a relational continuity concept directly, his view may be reconciled with the notion that the behavior a person provokes in childhood ($A_1 \rightarrow ego_1$) could be very similar to that which he provokes in adulthood ($A_9 \rightarrow ego_9$).

If the elicitation hypothesis is confirmed, it should have especially important significance for selection of educational administrators, since it would allow for the prediction of the type of behavior a given candidate will elicit from those around him -- how they will act and feel toward him.

Some support for this hypothesis has been found by Hilkevitch (1960) who found that half of the boys in her sample interacted with peers toward whom they could be supportive or who could be supportive towards them, thus eliciting the same behavior that they had probably gotten at home. Cox (1962) tried to assess children's attitudes towards parental figures by means of the TAT cards, which were scored for the child's attachment or rejection of one or both of the parents. He also had a love scale of how the parents treated the child and a measure of peer group acceptance and reputation. He found that reputed dependence is high in boys attached to mother figures, which would mean that they elicited nurturance from their classmates as they had from their mothers before that.

Vicarious elicitation, similar to the other vicarious situations, simply means that the mechanism operates by virtue of an observation in childhood of a two-person relation not involving ego. Ego identifies with the target, and later elicits the same behavior as does the target. For example, he sees his father as the recipient of abuse from his mother, and he, as superintendent, gets into the position of eliciting abuse from school board members, community leaders, and parents.

7. Reciprocity. Ego's relation toward others during childhood is similar to other people's relation toward him during adulthood. For example, Leary (1957), in discussing the "principle of reciprocal interpersonal relations" says:

> Our actions toward others generally have the effect of pulling a reciprocal response from them... If you walk up and aggressively shove a stranger the chances are good that he will shove you back. (p. 123)

Again, we must amend Leary's discussion for illustrative purposes. Our concept of a reciprocity extends from childhood to adulthood, that is, it asserts that a person's childhood behavior will, when he is adult, elicit similar behavior from adults. This mechanism does not seem so well developed conceptually as the others, and will not be dealt with further here.

In summary, the primary mechanisms through which relational continuity is maintained are transference, identification, and elicitation. These mean, respectively, that a person continues to act and feel toward others as he did toward early childhood figures; that he relates to others as he was related as a child; and that he continues to elicit from people the same behavior and feelings he did as a child. These mechanisms could have resulted either from personal impact or vicariously through observation of the original childhood relations.

Dimensions and levels. In addition to specifying the persons in the relations, their status relative to each other, and the mechanisms of relational continuity, it is necessary to delineate the particular areas of interaction which will be continuous throughout life. The primary interest of the present study is interpersonal behavior and, in particular, the dimensions postulated by the FIRO theory, inclusion, control and affection. this interest extends to continuity from childhood to adult life at the levels of both behavior and feeling. Thus, it is desirable to measure these six aspects of each relation --inclusion, control and affection -- at the behavior and feeling levels.

Measurement: LIPHE. The questionnaire designed particularly for testing the childhood parental relations is called the Life InterPersonal History Enquiry, or LIPHE (pronounced life). One problem in any investigation of this type concerns the validity of measurements of early childhood events. The LIPHE measures these events by asking for an adult respondent's recollection. The use of the retrospective method warrants further discussion.

Measurement of early childhood relations. There are many problems connected with obtaining data about events that occurred many years ago. Unknown distortions may have occurred which call into question the accuracy of methods based on recall by the persons involved in the original situation. On the other hand, observations made at the time of the original situation may not have included the elements of the situations which eventually prove most significant, such as unconscious factors. As a basis for exploring the advantages and disadvantages of various techniques of data collection about past events, the various types of observations available will be explored.

There are three major points of reference from which childhood events may be viewed: a) the parents' perceptions of the parent-child relation, b) the child's perception, and c) the "objective" situation (that is, the perception of trained observers). Further, there are three main time points at which the observations may be made: a) at the time of the childhood behavior (concurrent), b) immediately following the event, and c) sometime much later, for example, when the child reaches adulthood. Table 12 illustrates the various approaches to obtaining information about the parent-child relation:

Table 12

Data sources for parent-child relation

	Source of Report		
Time of Report	Parent (P)	Child (C)	Observer (O)
Concurrent (N)	NP (2,6)	NC (1,2)	NO (5)
Immediately following (F)	FP (2,6)	FC (1,2)	FO (5,2)
Much later (adulthood) (L)	LP (3,6)	LC (3,4)	LO (5,2)

The numbers in each cell refer to difficulties discussed below.

Since the conscious perceptions and behaviors of the adult are hypothesized to arise from the unconscious feelings about the self and feelings of others toward the self, the main interest of any investigation of relational continuity is with the unconscious perceptions and interpretations made by the child during the interaction with the parent. Relevant are the child's feelings — mainly the unconscious feelings — about such questions as "Does my parent treat me as if I'm a lovable person?" or "Does my parent really feel I am important enough for him to spend his time with me?"

Each of the methods of obtaining data listed above have drawbacks. These deficiencies will now be considered.

1. Child's need to distort because of feelings toward the parents. The guilt or fear of the parents may make a child reluctant to state negative feelings (suppression), or fail to recognize that he has such feelings (repression). Thus, direct on-the-spot inquiry may not give the most accurate picture of the "real" feelings of the child — that is, the feelings that will persist and influence future behavior. This applies to asking a child at the time of the occurrence of the event what his feelings are (NC, FC).

2. Unreliability of projective tests. The above drawback may be overcome to some extent by the use of projective techniques. The child may be asked indirectly and thus some suppression and repression may be avoided (NC, FC). However, validation data on projective techniques on children is very sparse, so that the accuracy of such data is questionable.

3. Fading of accurate memory. Any method involving a retrospective account of prior events is subject to forgetting. Asking an adult about his own childhood (LP, LC) has this drawback. Further, it is difficult to know how much distortion, and of which events, actually does occur; that is, to what degree forgetting is a motivated phenomenon. The force of this drawback may be mitigated by considering the content of what is forgotten. It may be that forgetting occurs readily for the specific content of a childhood event, but less readily for strong and significant feelings that attended these events. The predictive superiority of feelings over

behavior in the results to be presented lends support to this notion.

4. Adult's need to distort childhood situation to defend or blame parents. If it is true that feelings are more available than content, events or feelings that would cause unconscious forgetting or distorting of childhood events (LC) still must be considered. For example, extreme guilt toward parents may cause the child to remember only pleasant relations with his father and mother. Without a reliable theory of repression it would be difficult to assess the effect of this factor on accuracy of recall.

5. Difficulty of accurate inference by observers in regard to child's unconscious reactions to parents. Although on-the-spot observation by objective observers would seem to be the most accurate method of assessing the behavior and feelings of the child, great difficulties are typically encountered in obtaining inter-judge agreement, especially about feelings (NO, FO, LO). In addition, there is a question as to whether the feelings inferred by the judges are the ones that have the most lasting effect on the child's behavior as he becomes an adult.

6. Parent's needs to justify or punish himself for behavior toward child. For data gathered from the parents (NP, FP, LP) there is the possibility that the parents will attempt to present a socially desirable and justifiable report of the relation between parent and child. The parent, in the process of self defense, may blame the child for some unpleasant interaction. On the other hand, if the parent feels guilty, he may tend to blame himself and therefore distort his perception so that the child's behavior and feelings are seen as more positive than they "really" are.

Assessment of the relative importance of these drawbacks is very difficult. In addition, problems of feasibility enter. For example, to know about an adult's childhood precludes making direct observation of his childhood unless such observations were made when he was a child. This means that only retrospective instruments LP, LC, LO (that is, those that ask an adult to recall his past) are immediately practical. Thus, the choice made in the present study is to select a retrospective questionnaire for immediate use, cognizant of all of the above deficiencies.

The questionnaire must, of course, provide for a measure of relations between all childhood actors and targets, and between ego and all adulthood actors and targets. In addition, for all of these relations there must be a measure of inclusion, control and affection at both the behavior and feeling levels. The LIPHE instrument is described below.

Facet design: LIPHE. As in all the original instruments developed for this project a facet design of the universe of content was developed and items for a questionnaire generated from that design.

The facets of interest for the LIPHE questionnaire are:

1. Content of interaction. The specific interpersonal areas in which interaction occurs. Following the theory these are inclusion, control and affection.

2. Level of interaction. Measurement of the levels of behavior and feelings. The unconscious level is also a possibility but will not be dealt with here.

3. Direction of interaction. The interaction can originate either from the respondent to interactor, or interactor to respondent. Since the primary focus is the satisfaction of the respondent with the childhood interaction these two directions were combined in the item style. Each item indicates the degree of satisfaction in the childhood relation. One scale was used to discern the respondent's perception of his parent's satisfaction with him.

4. Target. The persons interacted with by the subject could include the entire list given in Table 10. For the present study the concentration is on the major figures of early childhood — Father and Mother.

The facet design for the LIPHE questionnaire is given in Table 13.

Table 13

Facet design for parental attitudes

Content

Target		Inclusion	Control	Affection
Father	Behavior Level			
	Feelings Level			
Mother	Behavior Level			
	Feelings Level			

The scales of the LIPHE questionnaire with psychometric data are given in Table 14.

Table 14a

LIPHE - Inclusion behavior (father) scale

Scale Name: When I was a child, I wanted my father to spend more time with me and to give me more attention.

Short Title: Inclusion behavior (father)

Respondents: All

(All items are to be responded to with one of six numbers. See details of scaling in Appendix.) The numbers mean:

1. Definitely not true
2. Not true
3. Tends to be not true
4. Tends to be true
5. True
6. Especially true

ITEMS	Positive Categories	% Accept	Mean	S.D.
1. I wanted my father to engage more in activities with me.	3456	69	3.40	1.35
2. I wanted my father to spend more time with me.	3456	64	3.17	1.28
3. I wanted my father to give me more attention.	3456	58	3.02	1.26
4. I wanted my father to spend more time reading stories to me.	3456	54	2.86	1.20
5. I wanted my father to share more of his recreational time with me.	456	43	3.23	1.28
6. I wanted my father to play with me more.	456	42	3.18	1.28
7. I wanted my father to spend more time playing games with me.	456	38	3.06	1.23
8. I wanted my father to take me more on trips and excursions.	56	19	3.22	1.31
9. I wanted my father to spend more time showing me how to do things.	56	17	3.16	1.28

% =	27.4	7.7	4.0	4.4	13.3	3.4	6.0	16.1	4.8	12.3
Score =	0	1	2	3	4	5	6	7	8	9

Reproducibility = .938 Zero point = 4

Mean = 4.17 Standard deviation = 3.27

Table 14b

LIPHE - Inclusion behavior (mother) scale

Scale Name: When I was a child, I wanted my mother to spend more time with me and to give me more attention.

Short Title: Inclusion behavior (mother)

Respondents: All

(All items are to be responded to with one of six numbers. See details of scaling in Appendix.) The numbers mean:

1. Definitely not true
2. Not true
3. Tends to be not true
4. Tends to be true
5. True
6. Especially true

ITEMS	Positive Categories	% Accept	Mean	S.D.
1. I wanted my mother to spend more time showing me how to do things.	3456	54	2.88	1.20
2. I wanted my mother to engage more in activities with me.	3456	56	2.91	1.18
3. I wanted my mother to play with me more.	3456	53	2.79	1.14
4. I wanted my mother to share more of her recreational time with me.	3456	53	2.81	1.16
5. I wanted my mother to take me more to various children's events.	456	33	2.94	1.23
6. I wanted my mother to take me more to places I wanted to go.	456	34	2.97	1.21
7. I wanted my mother to give me more attention.	456	26	2.78	1.17
8. I wanted my mother to spend more time with me.	456	26	2.79	1.15
9. I wanted my mother to spend more time playing games with me.	456	23	2.73	1.11

% =	38.2	4.7	3.3	2.2	18.1	2.5	6.3	2.5	4.9	17.0
Score =	0	1	2	3	4	5	6	7	8	9

Reproducibility = .935 Zero point = 4

Mean = 3.37 Standard deviation = 3.42

Table 14c

LIPHE - Control behavior (father) scale

Scale Name: When I was a child, I wanted my father to allow me more freedom, and to allow me to think more for myself.

Short Title: Control behavior (father)

Respondents: All

(All items are to be responded to with one of six numbers. See details of scaling in Appendix.) The numbers mean:

1. Definitely not true	4. Tends to be true
2. Not true	5. True
3. Tends to be not true	6. Especially true

ITEMS	Positive Categories	% Accept	Mean	S.D.
1. I wanted my father to expect less accomplishment in school from me.	23456	89	2.50	1.00
2. I wanted my father to allow me more freedom.	3456	61	3.15	1.30
3. I wanted my father to criticize me less for my conduct and manners.	3456	56	2.91	1.20
4. I wanted my father to supervise my activities less.	3456	49	2.67	1.04
5. I wanted my father to insist less on respect from me.	3456	43	2.51	1.01
6. I wanted my father to allow me to make more decisions.	456	41	3.17	1.24
7. I wanted my father to allow me to think more for myself.	456	33	2.97	1.22
8. I wanted my father to give me more freedom to choose my friends.	456	22	2.72	1.12
9. I wanted my father to restrict my choice of playthings and toys less.	456	13	2.49	.96

% =	8.0	23.2	11.2	5.7	4.2	13.6	6.3	9.6	8.8	8.9
Score =	0	1	2	3	4	5	6	7	8	9

Reproducibility = .928   Zero point = 5

Mean = 3.94   Standard deviation = 2.91

Table 14d

LIPHE - Control behavior (mother) scale

Scale Name: When I was a child, I wanted my mother to allow me more freedom, and to allow me to think more for myself.

Short Title: Control behavior (mother)

Respondents: All

(All items are to be responded to with one of six numbers. See details of scaling in Appendix.) The numbers mean:

1. Definitely not true
2. Not true
3. Tends to be not true
4. Tends to be true
5. True
6. Especially true

ITEMS	Positive Categories	% Accept	Mean	S.D.
1. I wanted my mother to allow me to make more decisions.	3456	62	3.12	1.25
2. I wanted my mother to criticize me less for my conduct and manners.	3456	58	2.97	1.22
3. I wanted my mother to supervise my activities less.	3456	51	2.75	1.10
4. I wanted my mother to limit my play activities less.	3456	52	2.78	1.11
5. I wanted my mother to allow me more freedom.	456	39	3.10	1.23
6. I wanted my mother to hold me less to strict rules of behavior.	456	32	2.93	1.19
7. I wanted my mother to give me more freedom to choose my friends.	456	27	2.82	1.17
8. I wanted my mother to hold me less to strict bedtimes.	456	27	2.80	1.14
9. I wanted my mother to restrict my choice of playthings and toys less.	456	15	2.53	.98

% =	32.7	7.6	5.1	3.0	15.1	6.2	6.0	5.7	7.5	10.8
Score =	0	1	2	3	4	5	6	7	8	9

Reproducibility = .926 Zero point = 4

Mean = 3.28 Standard deviation = 3.17

Table 14e

LIPHE - Inclusion feelings (father) scale

Scale Name: When I was a child, I wanted my father to be more interested in me and to feel more strongly that I was a significant person.

Short Title: Inclusion feelings (father)

Respondents: All

(All items are to be responded to with one of six numbers. See details of scaling in Appendix.) The numbers mean:

1. Definitely not true	4. Tends to be true
2. Not true	5. True
3. Tends to be not true	6. Especially true

ITEMS	Positive Categories	% Accept	Mean	S.D.
1. I wanted my father to be more interested in my activities.	3456	62	3.19	1.35
2. I wanted my father to be more interested in me.	3456	57	3.00	1.28
3. I wanted my father to feel more strongly that I was a significant aspect of his life.	3456	57	3.00	1.30
4. I wanted my father to be more interested in helping me to learn.	3456	53	2.87	1.24
5. I wanted my father to feel more strongly that I was a significant person.	456	36	3.01	1.26
6. I wanted my father to feel more strongly that I was an important person.	456	34	2.95	1.25
7. I wanted my father to feel more strongly that I was an important member of the family.	456	32	2.95	1.27
8. I wanted my father to feel more attached to me.	56	19	3.07	1.34
9. I wanted my father to be more interested in the things I was interested in.	56	15	3.08	1.26

% =	33.5	6.8	3.0	4.9	16.0	3.1	4.0	12.3	5.8	10.1
Score =	0	1	2	3	4	5	6	7	8	9

Reproducibility = .945 Zero point = 4

Mean = 3.55 Standard deviation = 3.23

Table 14f

LIPHE - Inclusion feelings (mother) scale

Scale Name: When I was a child, I wanted my mother to be more interested in me and to feel more strongly that I was a significant person.

Short Title: Inclusion feelings (mother)

Respondents: All

(All items are to be responded to with one of six numbers. See details of scaling in Appendix.) The numbers mean:

1. Definitely not true
2. Not true
3. Tends to be not true
4. Tends to be true
5. True
6. Especially true

ITEMS	Positive Categories	% Accept	Mean	S.D.
1. I wanted my mother to be more interested in my activities.	3456	53	2.85	1.22
2. I wanted my mother to feel more attached to me.	3456	50	2.77	1.21
3. I wanted my mother to feel more strongly that I was a significant aspect of her life.	3456	48	2.74	1.24
4. I wanted my mother to feel more strongly that I was a significant person.	456	30	2.85	1.26
5. I wanted my mother to feel more strongly that I was an important member of the family.	456	27	2.78	1.22
6. I wanted my mother to be more interested in me.	456	25	2.73	1.19
7. I wanted my mother to be more interested in helping me to learn.	456	24	2.72	1.18
8. I wanted my mother to feel more strongly that I was an important person.	56	12	2.80	1.23
9. I wanted my mother to feel more strongly that spending time with me was important.	56	12	2.86	1.22

% =	43.1	5.5	3.6	17.7	3.0	3.6	4.4	8.6	2.3	7.6
Score =	0	1	2	3	4	5	6	7	8	9

Reproducibility = .953 Zero point = 3

Mean = 2.68 Standard Deviation = 2.99

Table 14g

LIPHE - Control feelings (father) scale

Scale Name: When I was a child, I wanted my father to have more respect for my ability to think and to do things well.

Short Title: Control feelings (father)

Respondents: All

(All items are to be responded to with one of six numbers. See details of scaling in Appendix.) The numbers mean:

1. Definitely not true	4. Tends to be true
2. Not true	5. True
3. Tends to be not true	6. Especially true

ITEMS	Positive Categories	% Accept	Mean	S.D.
1. I wanted my father to have more respect for my judgment.	3456	67	3.31	1.31
2. I wanted my father to be more confident that I could be trusted with responsibilities.	3456	59	3.03	1.25
3. I wanted my father to feel more confident about my ability to succeed at difficult tasks.	3456	57	2.98	1.24
4. I wanted my father to be more confident that I would succeed in life.	3456	53	2.87	1.27
5. I wanted my father to have more confidence in my ability to take care of myself.	456	42	3.20	1.32
6. I wanted my father to have more respect for my ability to solve problems.	456	38	3.05	1.22
7. I wanted my father to feel more confident about my ability to think critically.	456	35	2.99	1.22
8. I wanted my father to have more confidence in my ability to learn things.	456	28	2.82	1.22
9. I wanted my father to have more respect for my ability to think for myself.	56	17	3.19	1.27

%	=	28.6	10.5	2.9	3.4	13.0	5.3	4.0	7.0	12.2	12.7
Score	=	0	1	2	3	4	5	6	7	8	9

Reproducibility = .941 Zero point = 4 Mean = 3.88 Standard deviation = 3.35

Table 14h

LIPHE - Control feelings (mother) scale

Scale Name: When I was a child I wanted my mother to have more respect for my ability to think and to do things well.

Short Title: Control feelings (mother)

Respondents: All

(All items are to be responded to with one of six numbers. See details of scaling in Appendix.) The numbers mean:

1. Definitely not true	4. Tends to be true
2. Not true	5. True
3. Tends to be not true	6. Especially true

ITEMS	Positive Categories	% Accept	Mean	S.D.
1. I wanted my mother to have more respect for my ability to make decisions.	3456	60	3.06	1.26
2. I wanted my mother to have more respect for my ability to solve problems.	3456	58	3.02	1.26
3. I wanted my mother to have more confidence in me to do things well.	3456	56	2.97	1.27
4. I wanted my mother to have more confidence in my ability to succeed in school.	3456	48	2.70	1.19
5. I wanted my mother to be more confident that I could be trusted with responsibilities.	456	37	3.04	1.28
6. I wanted my mother to feel more confident about my ability to succeed at difficult tasks.	456	33	2.93	1.25
7. I wanted my mother to have more confidence in my ability to learn things.	456	27	2.78	1.20
8. I wanted my mother to have more confidence in my ability to take care of myself.	56	18	3.16	1.30
9. I wanted my mother to be more confident that I would succeed in life.	56	14	2.91	1.28

% =	37.0	3.5	4.3	5.3	14.8	3.8	5.9	11.0	4.2	9.8
Score =	0	1	2	3	4	5	6	7	8	9

Reproducibility = .951 Zero point = 4

Mean = 3.40 Standard deviation = 3.18

Table 14i

LIPHE - Affection behavior/feelings (father) scale

Scale Name: When I was a child, I wanted my father to show and feel more love and affection for me.

Short Title: Affection behavior/feelings (father)

Respondents: All

(All items are to be responded to with one of six numbers. See details of scaling in Appendix.) The numbers mean:

1. Definitely not true
2. Not true
3. Tends to be not true
4. Tends to be true
5. True
6. Especially true

ITEMS	Positive Categories	% Accept	Mean	S.D.
1. I wanted my father to give me more praise for my accomplishments.	3456	61	3.12	1.30
2. I wanted my father to feel closer to me as a person.	3456	58	3.06	1.33
3. I wanted my father to feel more affection for me.	3456	54	2.93	1.28
4. I wanted my father to feel more love for me.	3456	52	3.12	1.30
5. I wanted my father to be warmer and closer in his behavior toward me.	456	38	3.07	1.29
6. I wanted my father to feel more warmth for me.	456	35	2.94	1.28
7. I wanted my father to display more love for me.	456	35	2.99	1.32
8. I wanted my father to display more affection for me.	56	22	3.16	1.39
9. I wanted my father to treat me in a warmer and friendlier manner.	56	17	2.99	1.33

% =	34.4	7.0	3.9	2.2	14.5	3.0	3.8	11.1	6.4	13.3
Score =	0	1	2	3	4	5	6	7	8	9

Reproducibility = .963 Zero point = 4

Mean = 3.77 Standard deviation = 3.44

Table 14j

LIPHE - Affection behavior/feelings (mother) scale

Scale Name: When I was a child I wanted my mother to show and feel more love and affection for me.

Short Title: Affection behavior/feelings (mother)

Respondents: All

(All items are to be responded to with one of six numbers. See details of scaling in Appendix.) The numbers mean:

1. Definitely not true	4. Tends to be true
2. Not true	5. True
3. Tends to be not true	6. Especially true

ITEMS	Positive Categories	% Accept	Mean	S.D.
1. I wanted my mother to display more affection for me.	3456	52	2.82	1.23
2. I wanted my mother to show more that she liked me as a person.	3456	50	2.78	1.24
3. I wanted my mother to feel more affection for me.	3456	47	2.71	1.21
4. I wanted my mother to give me more praise for my accomplishments.	456	34	2.94	1.27
5. I wanted my mother to feel closer to me as a person.	456	29	2.82	1.25
6. I wanted my mother to feel more warmth for me.	456	26	2.73	1.22
7. I wanted my mother to feel more love for me.	456	24	2.69	1.21
8. I wanted my mother to give me more proof of her love for me.	456	23	2.67	1.21
9. I wanted my mother to be more of a friend and pal to me.	456	23	2.71	1.13

% =	44.0	5.9	3.2	13.9	5.2	2.4	2.1	2.2	5.3	15.5
Score =	0	1	2	3	4	5	6	7	8	9

Reproducibility = .955 Zero point = 3

Mean = 2.98 Standard deviation = 3.43

Table 14k

LIPHE - ICA father scale

Scale Name: When I was a child, my father wanted me to be a better person.

Short Title: ICA(Fa)

Respondents: All

(All items are to be responded to with one of six numbers. See details of scaling in Appendix.) The numbers mean:

1. Definitely not true	4. Tends to be true
2. Not true	5. True
3. Tends to be not true	6. Especially true

ITEMS	Positive Categories	% Accept	Mean	S.D.
1. My father wanted me to leave him alone more.	23456	87	2.56	1.09
2. My father wanted me to help more around the house.	3456	71	3.42	1.29
3. My father wanted me to have better manners.	3456	62	3.11	1.23
4. My father wanted me to be more considerate of others.	3456	61	3.07	1.21
5. My father wanted me to play better at games.	3456	52	2.75	1.09
6. My father wanted me to be more obedient.	456	38	3.11	1.25
7. My father wanted me to be more polite.	456	38	3.09	1.22
8. My father wanted me to get better grades at school.	56	21	3.17	1.34
9. My father wanted me to stick up for my own rights more.	56	17	3.13	1.22

% =	7.3	20.0	8.1	4.1	6.4	16.5	5.3	16.2	7.0	8.7
Score =	0	1	2	3	4	5	6	7	8	9

Reproducibility = .932 Zero point = 5

Mean = 4.24 Standard deviation = 2.85

Table 141

LIPHE - ICA mother scale

Scale Name: When I was a child, my mother wanted me to be a better person.

Short Title: ICA(Mo)

Respondents: All

(All items are to be responded to with one of six numbers. See details of scaling in Appendix.) The numbers mean:

1. Definitely not true	4. Tends to be true
2. Not true	5. True
3. Tends to be not true	6. Especially true

ITEMS	Positive Categories	% Accept	Mean	S.D.
1. My mother wanted me to leave her alone more.	23456	85	2.42	1.02
2. My mother wanted me to help more around the house.	3456	74	3.58	1.31
3. My mother wanted me to be more considerate of others.	3456	66	3.24	1.25
4. My mother wanted me to assert myself more.	3456	59	2.96	1.19
5. My mother wanted me to have better manners.	456	46	3.25	1.26
6. My mother wanted me to be more polite.	456	45	3.23	1.26
7. My mother wanted me to be more sociable.	456	38	3.09	1.23
8. My mother wanted me to play better at games.	456	21	2.71	1.08
9. My mother wanted me to stick up for my own rights more.	56	16	3.16	1.22

% =	10.6	15.9	7.7	4.9	16.7	1.8	12.1	12.1	9.6	8.2
Score =	0	1	2	3	4	5	6	7	8	9

Reproducibility = .931 Zero point = 4

Mean = 4.30 Standard deviation = 3.01

The scale intercorrelations are given in Table 15.

Table 15

Intercorrelations among LIPHE scales

			1	2	3	4	5	6	7	8	9	10	11	12
IB	F	1	.	55	50	41	71	44	57	39	71	43	37	32
	M	2	55	.	52	63	53	78	50	64	48	74	44	43
CB	F	3	50	52	.	60	64	52	73	52	57	46	52	41
	M	4	41	63	60	.	45	59	50	65	40	55	48	47
IF	F	5	71	53	64	45	.	54	73	48	84	50	46	36
	M	6	44	78	52	59	54	.	52	72	50	87	41	41
CF	F	7	57	50	73	50	73	52	.	61	62	46	50	39
	M	8	39	64	52	65	48	72	61	.	43	66	45	48
ABF	F	9	71	48	57	40	84	50	62	43	.	48	38	32
	M	10	43	74	46	55	50	87	46	66	48	.	36	38
ICA	F	11	37	44	52	48	46	41	50	45	38	36	.	69
	M	12	32	43	41	47	36	41	39	48	32	38	69	.

This table reveals a fairly high intercorrelation both among interpersonal dimensions and between father and mother. The strongest relation is among all scales for father, and among all scales for mother, and a tendency for feelings scales to be more intercorrelated than behavior scales. The factor analysis below will elaborate these relations.

Interpersonal feelings

An administrator spends the overwhelming majority of his time interacting with people -- students, teachers, board members, parents. The particular orientations he has toward interpersonal behavior should have a significant influence on the administrator's effectiveness.

The FIRO theory deals extensively with various types of interpersonal behavior. Two levels are distinguished, interpersonal behavior and interpersonal feelings. Both levels are of importance for an assessment of interpersonal relations, behavior dealing with the action occurring between people, and feelings referring to more internal phenomena known primarily to the person himself.

Limitation of time for administering the questionnaire required a selection between the measures of behavior and feelings. Preliminary work with the measure of FIRO-F (for feelings) indicated that it might prove to be a valuable instrument, so it was selected for inclusion in the battery.

Measurement: FIRO-F. The FIRO-F measures the feeling level of the dimensions of inclusion, control, and affection. At this feeling level these dimensions become importance, competence, and lovability. The instrument measures these dimensions in both the expressed and wanted modality, thus the FIRO-F consists of six scales. The Guttman procedure described in Appendix D was used to derive six nine-item scales. These scales are presented in Table 16. A more extensive discussion of the theoretical basis is given in FIRO (Schutz, 1958).

Table 16a

FIRO-F - Expressed inclusion scale

Scale Name: I am interested in people and I think they are important and significant.

Short Title: Expressed inclusion

Respondents: All

(All items are to be responded to with one of six numbers. See details of scaling in Appendix.)

ITEMS	Positive Categories	% Accept	Mean	S.D.
1. I am interested in people.	56	85	5.37	.86
2. I feel neutral toward people.	123	76	4.22	1.12
3. I feel indifferent to people.	123	65	3.98	1.08
4. I am intrigued by people.	56	58	4.72	1.11
5. People don't mean anything to me.	1	50	5.36	.78
6. I feel that each person is important.	6	40	5.20	.86
7. I feel that each person is a significant individual.	6	34	5.13	.82
8. I feel unconcerned about people.	1	25	4.90	.91
9. I am stimulated by people.	6	20	4.51	1.00

% =	9.5	6.9	9.5	10.9	14.9	12.6	5.2	11.8	9.4	8.8
Score =	0	1	2	3	4	5	6	7	8	9

Reproducibility = .887 Zero point = 0

Mean = 4.36 Standard deviation = 2.84

Table 16b

FIRO-F - Expressed control scale

Scale Name: I trust and respect other people's competence and abilities.

Short Title: Expressed control

Respondents: All

(All items are to be responded to with one of six numbers. See details of scaling in Appendix.)

ITEMS	Positive Categories	% Accept	Mean	S.D.
1. I admire people's competence.	56	84	5.03	.71
2. I am suspicious of people's competence.	12	60	4.61	.79
3. I trust people's competence.	56	60	4.74	.91
4. I am skeptical of people's abilities.	12	49	4.27	1.02
5. I trust people's abilities.	56	46	4.36	.79
6. I don't feel that I can rely on people's jdugment.	12	42	4.12	1.06
7. I admire people's abilities.	6	24	5.06	.69
8. I have confidence in people's abilities.	6	21	4.67	.91
9. I feel I can depend on people's judgment.	6	12	4.29	.90

% =	9.2	18.9	9.6	11.6	7.6	8.8	15.2	6.5	4.9	7.3
Score =	0	1	2	3	4	5	6	7	8	9

Reproducibility = .885 Zero point = 0

Mean = 3.81 Standard deviation = 2.74

Table 16c

FIRO-F - Expressed affection scale

Scale Name: I like people and I feel close and warm toward them.

Short Title: Expressed affection

Respondents: All

(All items are to be responded to with one of six numbers. See details of scaling in Appendix.)

ITEMS	Positive Categories	% Accept	Mean	S.D.
1. I feel bitter toward people.	12	86	5.23	.83
2. I hate people.	1	68	5.54	.79
3. I feel cordial toward people.	56	67	4.68	.75
4. I feel warm toward people.	56	63	4.68	.83
5. I feel very friendly toward people.	56	50	4.43	.89
6. I feel affectionate toward people.	56	39	4.20	.95
7. I feel personally close to people.	56	34	4.05	.99
8. I feel cool toward people.	1	16	4.67	.90
9. I feel personally distant from people.	1	16	4.57	1.00

% =	7.4	10.3	12.7	8.6	11.2	12.1	8.2	16.6	3.3	9.1
Score =	0	1	2	3	4	5	6	7	8	9

Reproducibility = .911 Zero point = 0

Mean = 4.25 Standard deviation = 2.68

Table 16d

FIRO-F - Wanted inclusion scale

Scale Name: I want people to be interested in me, to pay attention to me, to feel I am important.

Short Title: Wanted inclusion

Respondents: All

(All items are to be responded to with one of six numbers. See details of scaling in Appendix.)

ITEMS	Positive Categories	% Accept	Mean	S.D.
1. I want people to feel that I'm a significant person.	456	84	4.48	1.20
2. It bothers me when people feel I'm insignificant.	456	73	4.08	1.13
3. It bothers me when people indifferent toward me.	3456	75	3.29	1.19
4. I like people to take an interest in me.	56	56	4.55	.78
5. I feel good when people feel I'm an important person.	56	45	4.30	1.01
6. I want people to feel that I'm an important person.	56	36	3.99	1.16
7. It is important to me that people feel concern for me.	56	35	4.07	1.00
8. It pleases me when people take an interest in me.	6	26	5.09	.74
9. It bothers me when people feel neutral toward me.	56	17	3.50	1.06

%	=	9.0	9.0	5.8	18.8	12.7	7.9	8.2	8.7	10.9	8.3
Score	=	0	1	2	3	4	5	6	7	8	9

Reproducibility = .895 Zero point = 3

Mean = 4.56 Standard deviation = 2.74

Table 16e

FIRO-F - Wanted control scale

Scale Name: I want people to respect and trust my competence and abilities.

Short title: Wanted control

Respondents: All

(All items are to be responded to with one of six numbers. See details of scaling in Appendix.)

ITEMS	Positive Categories	% Accept	Mean	S.D.
1. I am bothered when people don't have confidence in my abilities.	3456	79	3.59	1.30
2. I get annoyed when people don't trust my abilities.	3456	71	3.20	1.18
3. It is important to me that people have confidence in my abilities.	56	66	4.69	.88
4. I don't want people to be skeptical of my abilities.	56	49	4.38	.89
5. I don't like people to have doubts about my abilities.	56	40	4.12	1.08
6. I don't want people to have any restrictions about my competence.	56	32	3.94	1.07
7. It is important to me that people feel they can depend on my abilities.	6	28	4.70	1.04
8. I want people to feel that they can rely on my judgment.	6	18	4.90	.76
9. I am very pleased when people show respect for my competence.	6	15	4.77	.80

% =	13.3	7.0	14.8	15.6	9.8	9.4	10.5	7.4	3.5	8.2
Score =	0	1	2	3	4	5	6	7	8	9

Reproducibility = .907 Zero point = 2

Mean = 4.05 Standard deviation = 2.75

Table 16f

FIRO-F - Wanted affection scale

Scale Name: I want people to like me and to feel close and personal toward me.

Short Title: Wanted affection

Respondents: All

(All items are to be responded to with one of six numbers. See details of scaling in Appendix.)

ITEMS	Positive Categories	% Accept	Mean	S.D.
1. I try to avoid doing things that might make people feel hostile toward me.	3456	86	4.09	1.30
2. I want people to feel affectionate toward me.	456	80	4.14	.99
3. I want people to feel cordial toward me.	56	71	4.75	.70
4. I want people to like me.	56	68	4.76	.77
5. I don't care whether people like me or not.	12	65	4.77	.99
6. It disturbs me when people don't like me.	56	46	3.66	1.38
7. It is important to me that people feel very friendly toward me.	56	34	4.07	.99
8. It bothers me if people dislike me.	56	35	3.63	1.39
9. It is important to me that people feel personally close to me.	56	19	3.58	1.07

% =	4.7	7.5	10.8	7.1	9.3	15.6	10.9	7.3	14.2	12.2
Score =	0	1	2	3	4	5	6	7	8	9

Reproducibility = .897 Zero point = 2

Mean = 4.89 Standard deviation = 2.73

Table 17 shows the relations among the scales.

Table 17

Intercorrelations among FIRO-F scale

	e^I	e^C	e^A	w^I	w^C	w^A
e^I	.	36	50	25	20	28
e^C	36	.	39	20	18	25
e^A	50	39	.	28	26	40
w^I	25	20	28	.	55	58
w^C	20	18	26	55	.	47
w^A	28	25	40	58	47	.

Unlike the intercorrelations of the FIRO-B scales (see Schutz, 1958, p. 80) there is more correlation among the three wanted scales, especially, and the three expressed scales than between dimensions. The factor analysis presented at the end of this chapter reinforces this observation.

Family pattern

The recent upsurge in interest in the effect of birth order on subsequent functioning was given a strong impetus by the publication of Schacter's, The Psychology of Affiliation (1962). Several studies have determined special characteristics of first born children compared to later born, including higher in achievement (Sampson, 1962); high conformity (Sampson, 1962, Capra and Dittes, 1962, Staples and Walter, 1961); more dependent (Haeberle, 1958); high verbal ability (Koch, 1954); less aggressive (Sears, 1951, Mussen and Conger, 1956); and many other traits including less leadership ability (Roberts, 1938). Even more directly related to the administrative role is Stewart's (1961) study showing the preponderance of first and third born presidents.

The pilot study of the present project suggested the possibility that first born sons tend to go -- or be pushed -- into technical fields, while later born sons tend more to administrative positions. Large families require administration much more than small families. Division of labor, allocation of rewards and punishment, sharing, and all the other problems of group life must be dealt with in large families, whereas they have only a rudimentary form in small families. This fact suggests also that not only birth order but family size might be significant in determining administrative propensity. An oldest son in a large family may be forced into the role of administrator, while an oldest son with no sibling (only child) might be groomed more for individual achievement.

The sex pattern of a family seems relevant also. If a second born son has an older sister, his family role -- and probably his attitude toward women -- may be quite different than if he has an older brother. Or if he is the only boy in a large family, he is probably expected to perform differently than in a family of all boys.

Measurement. The available information should be sufficient to determine birth order, family size, and sibling pattern. This information was obtained by asking the following questions:

> For each brother you have (or had) write down the number of the item indicating how much older or younger he is than you are (Check here if you have no brothers ___.).
>
> Brother #1___ #2___ #3___ #4___ #5___
>
> 1) 15 or more years older
> 2) 10-15 years older
> 3) 5-9 years older
> 4) 4 years older
> 5) 3 years older
> 6) 2 years older
> 7) 1 year older
> 8) same age
> 9) 1 year younger
> 10) 2 years younger
> 11) 3 years younger
> 12) 4 years younger
> 13) 5-9 years younger
> 14) 10-15 years younger
> 15) 15 or more years younger
>
> For each sister you have (or had) write down the number of the item indicating how much older or younger she is than you are (Check here if you have no sisters___.).
>
> Sister #1___ #2___ #3___ #4___ #5___
>
> 1) 15 or more years older
> 2) 10-15 years older
> 3) 5-9 years older
> 4) 4 years older
> 5) 3 years older
> 6) 2 years older
> 7) 1 year older
> 8) same age
> 9) 1 year younger
> 10) 2 years younger
> 11) 3 years younger
> 12) 4 years younger
> 13) 5-9 years younger
> 14) 10-15 years younger
> 15) 15 or more years younger

Four measures were derived from these items. They are presented along with their interrelations in Table 17.

Table 18

Intercorrelations of family pattern measures

	S	B	O	N
Number of sisters	.	11	40	-06
Number of brothers	11	.	46	-47
Ordinal position	40	46	.	-12
Years to next sibling	-06	-47	-12	.

There is nothing unusual in this pattern of correlations except that brothers seem to come closer together in years than sisters.

The mean scores of each occupational group supports the notion that administrators tend to be later born. (See Appendix E.) The average ordinal position for administrators (superintendents and principals) was 2.9, while that for teachers was 2.4 and parents 2.2.

Cognitive traits

Intelligence and technical knowledge. The effect of intelligence on administrative effectiveness has long been a point of speculation. Some observers feel that there is a range of optimal intelligence. An administrator must not be below a certain range or else the complexities of the job will prove overwhelming, but the higher ranges of intelligence may be most appropriate to those of a more theoretical, abstract bent.

Similarity of intelligence is probably a factor in determining the citizen's response to an administrator. Pilot study results indicate considerable relation between intellectual compatibility and evaluation of administrative performance.

After trying several measures unsuccessfully, a test of intelligence appropriate for adults was finally found that combined the main features of general information, vocabulary and logical reasoning. This test is a revision and shortening of the Concept Mastery Test published by the Psychological Corporation and used with their permission. It consists of half of the analogies subtest. It will not be reprinted here.

The measure of technical knowledge of educational administration was also used as a criterion measure, and is presented in the chapter on criteria (pp. 52-53).

Cognitive style. Recently there has been a great deal of interest in the way people perceive the world and attempt to come to terms with it. There are identifiable cognitive styles which may be looked upon as a supplement to interpersonal orientations. Another possible contributor to the rating of administrators is the similarity of cognitive styles of principal and interactor.

An adaptation of the Myers-Briggs Type Indicator was selected as a measure of "cognitive style," or intellectual approach to the world. The instrument was constructed by Isabel Briggs Myers and Katharine C. Briggs.

The Myers-Briggs Type Indicator (Myers, 1962) is a self-report inventory which is intended to measure variables stemming from the Jungian personality typology (Jung, 1923, 1933, 1953). It consists of four scales: Extraversion-Introversion (E-I), Sensation-Intuition (S-N), Thinking-Feeling (T-F), and Judging-Perceiving (J-P). The E-I scale is presumed to measure interest in things and people or concepts and ideas; the S-N scale, tendencies to perceive through the usual sensory processes or indirectly, via the unconscious; the T-F scale, tendencies to judge (or evaluate) phenomena rationally and impersonally or subjectively and personally;

and the J-P scale, tendencies to reach conclusions about phenomena or to become aware of them (Myers, 1962).

These scales were expressly developed to classify people into type categories (e.g., classification as an extravert, an introvert, or, in those cases where the two tendencies are equal, "indeterminate") which would have real meaning. The cutting (or "zero) points used in making these classifications were so chosen that those people who are on one side of a scale's cutting point, and, hence, in one type category, are presumed to be qualitatively different from those who are on the other side of it, and hence, in the opposite type category. In addition to these categorical classifications, continuous scores for each scale can be derived by arbitrarily considering one end of the scale high.

The Indicator has been used increasingly in theoretically oriented studies (e.g., Lord, 1958; Saunders, 1960; Smucker, 1959; Stricker and Ross, 1963),as well as more applied ones (e.g., Howarth, 1962; Laney, 1949; Ross, 1961; Saunders, 1957; Taylor, 1960; von Fange, 1961).

Two of these scales proved very successful in differentiating occupational groups in studies performed at the institute of Personality Assessment and Research at the University of California (MacKinnon, 1962). They were extremely successful in measuring variables that appear to contribute to success in one field of endeavor as opposed to another. The dimensions it measures may thus be important predictors of success in a field like educational administration.

These scales are defined more specifically as follows:

Judging-Perceiving. It is argued, a) that a great part of overt cognitive activity can be regarded as either judging (coming to a conclusion about something) or perceiving (becoming aware of something); and, b) that there are two ways of judging -- thinking and feeling -- and two ways of perceiving -- sensation and intuition.

> There is a fundamental difference between the two attitudes. In the judging attitude, in order to come to a conclusion, perception must be shut off for the time being. The evidence is all in. Anything more is incompetent, irrelevant and immaterial. One now arrives at a verdict and gets things settled. Conversely, in the perceptive attitude one shuts off judgment for the time being. The evidence is not all in. There is much more to it than this. New developments will occur. It is much too soon to do anything irrevocable (Myers, 1962, p. 58).

Sensation-Intuition. The two modes of perception -- sensation and intuition -- are described in the following way.

> There is not only the familiar process of sensing, by which we become aware of things directly through our five senses. There is also the process of intuition, which is indirect perception by way of the unconscious, accompanied by ideas or associations which the unconscious tacks on to the perceptions coming from outside. These unconscious contributions range from the merest masculine "hunch" or "woman's intuition" to the crowning examples of creative art or scientific discovery.

When people prefer sensing, they find too much of interest in the actuality around them to spend much energy listening for ideas out of nowhere. When people prefer intuition, they are too much interested in all the possibilities that occur to them to give a whole lot of notice to the actualities (Myers, 1962, pp. 51-52).

These definitions, however, do not always correspond to the content of the items that comprise the instrument that measures them. Stricker and Ross (1963) found, "the Sensation-Intuition and Thinking-Feeling scales may reflect restricted aspects of the dimensions they are intended to represent, and the Extraversion-Introversion and Judging-Perceiving scales may reflect something quite different from their postulated dimensions."

For these reasons the tests were revised for this study.

Measurement: Imagination and Certainty. The original thirty to forty items on each scale were content analyzed for logical similarity. Several items were discarded and the remaining set renamed to be more consistent with the actual item content. The Intuitive-Perceptive scale was given the title Imagination and the scale name (the content and positive end) of, "I prefer uniqueness and creativity to conventionality and practicality". The Feeling-Thinking scale was retitled Certainty and the new scale name was, "I prefer to do things in a scheduled, planned way rather than in a spontaneous, immediate fashion".

They were then put in a dichotomous answer form and administered to a group of 120 respondents. The items did not form a cumulative (Guttman) scale so they were subjected to an item analysis using the method of Ebel (1959), and also the traditional tetrachoric-r method. The nine best items were chosen from these methods and constituted the final scale. The scales are presented in Table 19.

Table 19a

MBTI

Scaled by Item Analysis
N = 120

Certainty Scale

Scale Name: I prefer to do things in a scheduled, planned way rather than in a spontaneous, unhampered fashion.

Item number		1	2	3	4	5	6	7	8	9
Discrimination	r_{bis}	73	71	73	90	90	65	57	56	90
	$\frac{u-l}{u}$	66	66	55	66	76	73	55	55	66

Scale Score	0	1	2	3	4	5	6	7	8	9
Distribution (per cent)	0	3	8	8	7	14	18	13	17	11

Mean = 6.1 Standard deviation = 2.23 (for N = 5847)

ITEMS	Positive Responses
1. When you go somewhere for the day, would you rather a) plan what you will do and when b) just go	A
2. Which word appeals to you more? a) systematic b) casual	A
3. Do you find the more routine parts of the day a) restful b) boring	A
4. When it is settled well in advance that you will do a certain thing at a certain time, do you find it a) nice to be able to plan accordingly b) a little unpleasant to be tied down	A
5. Which word appeals to you more? a) scheduled b) unplanned	A
6. Which word appeals to you more a) systematic b) spontaneous	A
7. When there is a special job to be done, do you like a) to organize it carefully before you start b) to find out what is necessary as you go along	A
8. Is it harder for you to adapt to a) routine b) constant change	B
9. Does following a schedule a) appeal to you b) cramp you	A

Table 19b

MBTI | Imagination Scale | Scaled by Item Analysis
N = 120

Scale Name: I prefer uniqueness and creativity as opposed to conventionality and practicality.

Item number			1	2	3	4	5	6	7	8	9
Discrimination	r_{bis}		68	80	78	75	76	63	65	75	78
	$\frac{u-l}{u}$		70	82	82	58	64	55	67	64	82
Scale score		0	1	2	3	4	5	6	7	8	9
Distribution		8	17	13	9	8	15	13	8	4	2

Mean = 4.8 Standard deviation = 2.55 (for N = 5847)

ITEMS	Positive Responses
1. Do you admire more the person who is a) conventional enough never to make himself conspicuous b) too original and individual to care whether he is conspicuous or not.	B
2. Which word appeals to you more? a) theory b) certainty	A
3. Which word appeals to you more? a) facts b) ideas	B
4. Is it higher praise to call someone a) a man of vision b) a man of common sense	A
5. Which word appeals to you more? a) sign b) symbol	B
6. Would you rather have as a friend someone who a) is always coming up with new ideas b) has both feet on the ground	A
7. In your scheme of living, do you prefer to be a) original b) conventional	A
8. Which word appeals to you more? a) concrete b) abstract	B
9. Do you usually get on better with a) imaginative people b) realistic people	A

Table 20 shows the relation among the cognitive scales.

Table 20

Intercorrelations among measures of cognitive traits

	Imagination	Certainty	IQ
Imagination	.	-50	30
Certainty	-50	.	-15
IQ	30	-15	.

Background traits

The rationale for selecting background traits is presented in the criteria chapter.

Most of the background traits were obtained by asking a single question. The means and standard deviations for the project sample of 3400 teachers are presented with the item. Further data are given in Appendix E.

SEX (Mean = 1.45, S.D. = 0.50) ____(1) male ____(2) female

AGE (Mean = 4.12, S.D. = 2.18) ____What was your age at your last birthday?

(1) under 26
(2) 26-30
(3) 31-35
(4) 36-40
(5) 41-45
(6) 46-50
(7) 51-55
(8) 56-65
(9) over 65

MARITAL (Mean = 4.41, S.D. = 1.12) ____Are you now (choose one):

(1) divorced
(2) separated
(3) single (never married)
(4) widowed
(5) married

ETHNIC (Mean = 3.91, S.D. = 0.46) ____What is your ethnic group?

(1) Negro
(2) Mexican
(3) Oriental
(4) Caucasian

EDUCATION (Mean = 7.07, S.D. = 1.03) ____What is the highest level of education you have attained (or if you are a married woman, what is the highest level attained by your husband)?

(1)under 6 years
(2) grade school diploma
(3) 1-3 years high school
(4) high school diploma
(5)1-3 years college
(6)college degree
(7)post-graduate courses
(8)Master's degree
(9) Doctor's degree

FATHER'S EDUCATION
(Mean = 3.64, S.D. = 1.96)

____What was the highest level of education attained by your father (or if you are a married woman, what was the highest level attained by your husband's father)?

(1)under 6 years
(2)grade school diploma
(3)1-3 years high school
(4)high school diploma
(5)1-3 years college
(6)college degree
(7)post-graduate courses
(8)Master's degree
(9)Doctor's degree

INCOME
(Mean = 4.26, S.D. = 0.99)

____What is your total family income?

(1) under $2500
(2) 2500-3999
(3) 4000-6999
(4) 7000-9999
(5)10,000-14-999
(6)15,000-19,999
(7)20,000-30,000
(8)over 30,000

MOBILITY
(Mean = 4.57, S.D. = 2.68)

____How long have you lived in this community?

(1) less than 1 year
(2) 1-3 years
(3) 4-6 years
(4) 7-9 years
(5) 10-12 years
(6) 13-15 years
(7) 16-18 years
(8) 19-21 years
(9) over 21 years

The political and religious preferences were also obtained by single questions. (Remember, these questions were asked around the time of the 1960 election.)

POLITICAL
(Mean = 4.69, S.D. = 1.35)

____Whose political views come closest to your own? (Choose one.)

(1) Norman Thomas
(2) Chester Bowles
(3) Adlai Stevenson
(4) John Kennedy
(5) Nelson Rockefeller
(6) Richard Nixon
(7) Barry Goldwater
(8) Robert Welch

RELIGIOUS
(Mean = 5.81, S.D. 2.70)

____Which is your religious preference?

(1) none or agnostic
(2) Jewish
(3) Catholic
(4) Baptist
(5) Methodist
(6) Congregationalist
(7) Unitarian
(8)Episcopalian
(9) Other

The omission of Lutheran may have influenced the last item.

Note that where feasible the answer choices were listed from least to most socially acceptable, so that indices would be easier to compute. A high score meaning wealthy, well educated, white, older, etc.

In addition to these traits, three properties specific to education were inquired into.

____How long have you been in your present position?
(1) less than one year (4) 3 years (7) 8-10 years
(2) one year (5) 4-5 years (8) 11-15 years
(3) 2 years (6) 6-7 years (9) more than 15 years

____How many years of full time teaching experience have you had?
(1) none (4) 4-6 years (7)14-16 years
(2) under 1 year (5) 7-9 years (8) 17-20 years
(3) 1-3 years (6) 10-13 years (9) more than 15 years

____Which is (was) your main teaching subject?
(1)general elementary (4)music, art, dramatics, foreign languages (6)business education
(2)shop or homemaking (5)social studies (7)English
(3)physical education (8)sciences
(9)mathematics

The relations among these traits are presented in Table 21.

Table 21

Intercorrelations among measures of background traits

	SEX	MAR	AGE	REL	ETH	EDUC	FA EDUC	INC	POL	STAB	IQ
SEX	.	-21	12	12	-03	-29	14	10	11	06	-05
MAR	-21	.	-01	05	05	00	-03	32	-01	03	-09
AGE	12	-01	.	11	10	05	-05	33	10	41	11
REL	12	05	11	.	07	-02	10	04	19	04	00
ETH	-03	05	10	07	.	04	08	06	08	02	10
EDUC	-29	00	05	-02	04	.	04	09	-10	-04	23
FA EDUC	14	-03	-05	10	08	04	.	05	09	-04	07
INC	10	32	33	04	06	09	05	.	04	22	00
POL	11	-01	10	19	08	-10	09	04	.	08	-12
STAB	06	03	41	04	02	-04	-04	22	08	.	02
IQ	-05	-09	11	+00	10	23	07	00	-12	02	.

Intercorrelation of Individual Measures

There are a total of 57 individual measures presented above. Since these were used to predict the criteria of administrative effectiveness they are referred to as predictor variables. Fifty-seven is a very cumbersome number to use for a study, and it is quite possible that there is some empirical intercorrelation among these variables even though they are theoretically independent. For these reasons a factor analysis was done of these 57 measures to reduce them to a more manageable number and to discover the interrelations among them.

Table 22 lists the predictor variables used.

Table 22

Original predictor variables

Type	Number of Measures
Cognitive style (Imagination, Certainty)	2
Educational Values (VAL-ED)	14
Intelligence (Revised CMT)	1
Interpersonal feelings (FIRO-F)	6
Defense mechanisms (COPE)	5
Interpersonal relations with parents (LIPHE)	12
Biographical	10
Educational background	3
Birth order	4
TOTAL	57

Factor analyses were done for the total sample, and also for administrators and teachers separately. The results and the three analyses were compared and thirteen factors selected. These factors were given names. The factor names, and the predictor variables comprising the factor are given in Table 23.

Table 23

Factors of predictor variables

Factor Name	Scale Title	Scale Name
1. I am dissatisfied with the way my father related to me.	LIPHE IB(Fa)	When I was a child, I wanted my father to spend more time with me and to give me more attention.
	LIPHE IB(Fa)	When I was a child, I wanted my father to be more interested in me and to feel more strongly that I was a significant person.
	LIPHE CF(Fa)	When I was a child, I wanted my father to have more respect for my ability to think and do things well.
2. I am dissatisfied with the way my mother related to me.	LIPHE IB(Mo)	When I was a child, I wanted my mother to spend more time with me and to give me more attention.
	LIPHE CB(Mo)	When I was a child, I wanted my mother to allow me more freedom and to allow me to think more for myself.
	LIPHE IF(Mo)	When I was a child, I wanted my mother to be more interested in me and to feel more strongly that I was a significant person.
	LIPHE CF(Mo)	When I was a child, I wanted my mother to have more respect for my ability to think and do things well.
	LIPHE ABF(Mo)	When I was a child, I wanted my mother to show and feel more love and affection for me.
	LIPHE ICA(Mo)	When I was a child, my mother wanted me to be a better person.
3. I want people to notice, respect, and like me.	FIRO-F w^I	I want people to be interested in me, to pay attention to me, to feel I am important.
	FIRO-F w^C	I want people to respect and trust my competence and abilities.
	FIRO-F w^A	I want people to like me and to feel close and personal toward me.

(Table 23 cont.)

Factor Name	Scale Title	Scale Name
4. I am interested in, respect, and like people.	FIRO-F e^I	I am interested in people and I think they are important and significant.
	FIRO-F e^C	I trust and respect other people's competence and abilities.
	FIRO-F e^A	I like people and I feel close and warm toward them.
5. I prefer conformity and conventionality.	Certainty	I prefer to do things in a scheduled, planned way rather than in a spontaneous,unhampered fashion.
	Imagination (negative)	I prefer uniqueness and creativity as opposed to conventionality and practicality.
	VAL-ED TCm:C	The teacher should conform to the dominant values of the community.
	VAL-ED AT:C	The administrator should control the activities of the teacher, both in the classroom and in the community.
	VAL-ED ACm:C	The desires of the community should determine school policy.
6. People in the school situation should have close and personal relations with each other.	VAL-ED TCm:I	The teacher should participate in community activities and be encouraged to do so by community members.
	VAL-ED TCm:A	The teachers and people in the community should be personally friendly with each other.
	VAL-ED AT:A	The administrator should be personally close with teachers and express feelings openly.
	VAL-ED ACm:I	The administrator and people in the community should be involved jointly in school and community affairs.
	VAL-ED ACm:A	The administrator and the people in the community should be personally friendly with each other.

(Table 23 cont.)

Factor Name	Scale Title	Scale Name
7. Education is of importance in developing the whole child.	VAL-ED Importance	Education has intrinsic value in and of itself beyond its utilitarian advantages.
	VAL-ED Mind (negative)	The school should concern itself primarily with the development of the minds of the students rather than with their whole personality.
	VAL-ED SC:C	The school should help the child to realize and use his own abilities and judgment most effectively.
8. I am conservative	Politics	My political views are conservative.
	VAL-ED TC:A (negative)	The teacher should be personally friendly and warm toward the children.
	VAL-ED AT:I (negative)	The administrator should take account of teachers' opinions when making policy decisions.
9. I handle anxiety by attributing my unacceptable feelings and motives to others.	COPE Projection	I handle anxiety by attributing my unacceptable feelings and motives to others.
	COPE Turns-ag.-self (negative)	I handle anxiety by blaming myself unrealistically and punishingly.
10. I handle anxiety by denying the problem or its importance.	COPE Denial	I handle anxiety by denying the presence of a problem.
	COPE Isolation	I handle anxiety by acknowledging its presence but treating it intellectually.
	COPE Regression (negative)	I handle anxiety by turning to other people to solve my problem.
11. I am an established citizen.	Age	I am old.
	Income	I have a high income.
	Stability	I have lived in this community a long time.

(Table 23 cont.)

Factor Name	Scale Title	Scale Name
12. I come from a large family.	No. of Fem. Sibs.	I have many female siblings.
	No.of Male Sibs.	I have many male siblings.
	Ordinal position	
	Next older Sib. (negative)	My next older sibling is very much older than I am (or next younger, if respondent is oldest).
13. I have a high status father	Father's education	My father was highly educated.
	Father's occupation	My father had a high status occupation.

The results of the factor analysis of the predictor variables in combination with the theoretical framework for selecting these variables supports the success of the attempt at comprehensiveness and independence of the measures used. There was little overlap of scales from different questionnaires, each one apparently measuring a different aspect of an individual.

Factors 1 and 2 were from LIPHE, the first having to do with father, the second with mother. Factors 3 and 4 similarly divided the FIRO-F scales into the expressed and wanted aspects. The fifth factor picked up the cognitive style variables. Factor 6 came from the VAL-ED inclusion and affection scales. The VAL-ED control scales were separated from these and went primarily with cognitive style scales in factor 5. Factor 7 was plainly the non-interpersonal scales of the VAL-ED. Factor 8 comprised the political conservatism item along with some personal attitudes from VAL-ED about relations between administrator, teacher and child. Along with factor 5 it was the most mixed factor.

Factors 9 and 10 divided the scales from COPE in a very interesting way. Factor 9 measures projection while factor 10 measures denial. This breakdown is similar to Rosenzweig's (1948) categories of expression aggression: extrapunitive (projection), intropunitive (negative projection), impunitive (denial). Factor 11 is a social status measure, factor 12 is primarily family size (number of sisters plus number of brothers) derived from the birth order items. And factor 13 is from the background items regarding father's status.

Thus the factor analysis has supported the notion of the independence of the various derived measures and given interesting insights into the internal structure of these variables. These factors can be scored by adding the scores on individual scales comprising the factor. The 13 factor scores were used as predictors in the study.

Final Form of Predictor Variables

The factor analysis is very useful in reducing the 57 scales to 13 scores but it does not preclude the use of individual scale scores if there is a theoretical justification for their inclusion. Results of the factor analysis revealed that there were a few scales that did not fall clearly into any one factor but which seemed to be very useful, or which were of interest for particular reasons. For example, there is much interest in whether or not intelligence is related to administrative effectiveness, thus intelligence was included as a predictor variable.

Table 24 gives the complete list of the 33 predictor variables used in this study.

Table 24

Final form of predictor variables

Number	Name (content and positive end of scale)
1.	I am dissatisfied with the way my father related to me.
2.	I am dissatisfied with the way my mother related to me.
3.	I want people to notice, respect, and like me.
4.	I am interested in, respect, and like people.
5.	I prefer conformity and conventionality.
6.	People in the school situation should have close and personal relations with each other.
7.	Education is of importance in developing the whole child.
8.	I am conservative.
9.	I handle anxiety by attributing my unacceptable feelings and motives to others.
10.	I handle anxiety by denying the problem or its importance.
11.	I am an established citizen.
12.	I come from a large family.
13.	I have a high status father.
14.	I am male.
15.	I am married.

(Table 24 cont.)

Number	Name
16.	Religious preference
17.	I am intelligent.
18.	I was a later born child in my family.
19.	The teacher should regulate classroom behavior.
20.	When I was a child, I wanted my father to allow me more freedom.
21.	My father wanted me to be a better person.
22.	I have held my position for many years.
23.	I have been a full time teacher for many years.
24.	My teaching field was like the sciences and mathematics.

CLASSIFICATION AND SAMPLING OF SCHOOL DISTRICTS

by James R. Cameron, Rolf O. Kroger, Frank Farner, and William C. Schutz

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In recent years the behavioral sciences have steadily moved toward greater recognition of the importance of situational variables for the prediction and understanding of behavior. This recognition has led to an increasing number of research strategies that include both individual and situational factors. Studies in racial prejudice, for example, have turned from a one-sided concern with personality determinants (Adorno, et. al., 1950) to an inclusion of situational variables (Pettigrew, 1961; Allport, 1960). In conceptualizations of leadership, the trait approach (Stogdill, 1948) has given way to the recognition of multiple determinants including situational ones (Gibb, 1954; Petrullo and Bass, 1961).

In the present chapter a method is presented for selecting and classifying the sociological characteristics of certain geographical units. The units used are school districts, since that is the focus of the present project. However, the logical and empirical approach to the problem should be applicable to the sociological categorization of any geographical unit.

Purpose of Classification

Specification of the objective of the classification is the first step in deriving a set of school district categories.

> School districts should be classified such that a school administrator would perform with essentially the same effectiveness in any district within a category, and different from the way he would perform in any district in any other category.

A superintendent or principal may perform well in a large metropolitan area but fail in a small farm community. A school district composed of highly educated and vitally interested parents probably presents entirely different problems to an administrator than a district characterized by poorly-educated and uninterested parents. The larger environment, or the sociological situation of the administrator, must be considered for a better understanding of administrative performance.

But before this generality is of much use, the specific components of the social situation which are most likely to influence behavior must be identified and measured.

Selection of Variables

Two major approaches to identifying the variables significant for administrator performance are the experiential and the objective. The experiential method uses the subjective experience of men familiar with the situation in educational administration and with the particular districts in question to classify the districts in terms of the aim of the classification. This method utilizes the pooled available knowledge of expert observers. The objective method involves deriving repeatable measures of the social characteristics of each school district -- such as those measures listed in the census -- and through statistical methods classifying districts into similar types.

If the empirical approach is used without the expert's opinions there can be little confidence that the resulting categories are related to, in this case, administrative effectiveness. They may be empirically discrete categories, easily reproduced, but have no validity whatever for discriminating administrative performance. On the other hand, expert judgment without empirical support remains subjective and limited. Other investigators may have difficulty repeating the procedure and the results would be quite unstable and probably unreliable.

In this study both approaches were used and their results compared. If the results were different, those districts which came out differently would be examined to see if some dimensions were being omitted and corrections would be made. If the results of the two classifications were sufficiently close then the empirical method could be used with confidence that it was both reliable and valid.

This general method of utilizing expert opinions but trying to replace it with an objective procedure has been described in the literature of the philosophy of science by Carnap (1950) as "explication":

> "By the procedure of explication we mean the transformation of an inexact, prescientific concept, the explicandum, into a new exact concept, the explicatum".

In this case the explicandum is the set of categories arrived at by expert opinion, a valuable piece of information but inexact and prescientific. The objectively derived set of district types is the explicatum.

The criteria Carnap gives for determining the adequacy of an explicatum are, 1) similarity to the explicandum, 2) exactness, 3) fruitfulness, and, 4) simplicity.

Comparing the results of classifications using the two methods is a means for maximizing the similarity of the explicandum and the explicatum. If there is little relation between the two resulting typologies clearly the objective method (explicatum) is not generating the same type of data that expert judges produce (explicandum). The fruitfulness criterion can only be met through the use of the category system for empirical investigations which is the main purpose of the present study. If the categories derived by the objective method actually produce district types wherein similar kinds of administrators perform similarly, and where similar types of administrators perform differently in different district types, then the classification has demonstrated its fruitfulness for this type of study. The criteria of simplicity and exactness are met through the derivation of a simple precise mathematical technique for classifying unequivocally any district into a district type. This chapter is devoted to deriving the explicandum from expert judges, generating an explicatum from empirical methods, and demonstrating that the objective method (explicatum) is similar to the explicandum in that it is simple and exact, and that there is face validity for its fruitfulness. The results of the study will provide empirical evidence for this fruitfulness.

The problem of deriving district types to use for testing empirical hypotheses closely parallels the problem of sampling school districts for the study. Sampling California school districts requires deriving strata from which districts could be randomly chosen. The characteristics of the sample relevant to administrative performance thus selected must approximate closely those of the totality of school districts in California. Therefore the bases for selecting district types and for selecting sampling strata are very similar. The experts' classification was used to select the sample, and the objective classification -- which closely approximated that of the judges -- was used to classify the districts for use in the statistical analysis.

First some of the sampling considerations will be described, followed by a description of the classification scheme of expert judges, and the final sampling procedure. Following that is an exposition of the development of the objective method and the method used for the final classification of the school districts.

Some Sampling Considerations

For a study of administrative effectiveness to produce results relevant to the school situation in California, a sample must be selected of educational units representative of California, both on the average and with respect to the variability of educational settings. (In this study all references to the California school situation are to the early 1960's, and the census data contained in the 1960 census.) An extraordinary variety of settings for school administrators is found in California produced by a number of factors, including 1) size: high school districts vary from one high school with about forty students (Death Valley) to fifty-one high schools with over 100,000 students (Los Angeles); 2) geography: California has farms, mountains, forest, and desert, cities, and large metropolitan areas; 3) population density: there are many isolated, sparsely populated areas and many highly urbanized, metropolitan centers; 4) local control: there are hundreds of school boards, each of which has a wide range of freedom to set local policy; 5) unification: about one third of the high school districts are unified, i.e., there is one school board and one superintendent for the elementary and high schools, while the remainder are union high school districts, i.e., there is one board and one superintendent for the high schools and a different board and superintendent for the elementary schools.

The usual method for selecting a representative subgroup from a large population is simple random sampling, that is, selecting a group of elements in such a way that each possible group has an equal chance of being selected for the sample. In most cases, a better method is to stratify the population and choose a random sample from within each stratum. To "stratify" means to divide the population into homogeneous subgroups in such a way that the individuals within any one stratum are as much alike as possible with respect to the variable under investigation, and the strata differ as much as possible on that variable. Usually, the more that is known about the characteristics of the population, in this case California school districts, the more profitable it is to stratify, providing that this knowledge is used in the stratification.

The advantages of an appropriately chosen stratified random sample include,a) it requires a smaller total sample size than an unrestricted random sample to attain the same level of validity of making inferences from the sample to the total population; b) it better insures that the sample reflects the diversity of the population; c) stratification permits the more adequate handling of extreme values in the population (such as the Los Angeles district which is far larger than any other California district).

One purpose of dividing the population into strata before sampling is to insure a wide range of values for many relevant variables; for example, to make certain that the sample includes large, medium and small districts. However, the strata are not necessarily the same groupings that will be used in the final analysis of the data. For the latter, subpopulations of various types may be selected on the basis of specific variables, and administrator effectiveness as a function of those variables explored. For example, "rural farm centers" might be chosen as a stratum because the problems of administering a school in districts of this type seem to be somewhat similar. However, after the survey is completed, other variables may be used to test against effectiveness -- for example, ADA (average daily attendance), or expenditure per pupil, or community interest, or political tendency, or whatever. Hopefully, the latter variables will be well sampled in the general population as a result of selecting a stratified sample.

In order to stratify, both the individual units (districts, attendance areas) to be stratified and some of the important variables under investigation must be specified. Consideration of the purpose of the study indicates the most appropriate specification.

As mentioned above, the primary purpose of the present study is to determine the factors that lead to effective or ineffective school administration at both high school and elementary levels for both superintendent and principal. The eventual application of this information is to the selection and training of administrators. It is hypothesized that effective administrative behavior is a function of the interaction between the personality of the administrator, the types of people he works with most closely, and the general community setting in which he operates. It is the latter that the sampling must make representative of California.

Because a focus of the study is on interaction, it is important to have a sampling unit large enough to encompass all the people who have significant interaction with each other. For this purpose, the high school and unified district emerges as the most appropriate sampling unit. Stratification will be aimed at dividing the high school and unified districts into strata that are homogeneous with respect to the various "conditions that lead to a given level of administrative effectiveness." Other districts and school attendance areas will be derived from these strata.

The most appropriate design for this type of sampling problem is the disproportionate stratified sample (see below). The procedures for sampling include, a) defining the strata, b) determining the size of the strata, c) sampling from within each stratum, d) characterizing the sample chosen.

Stratification*

One major objective in selecting a sample is to minimize the difference in results obtained in the study as a function of which sample is chosen. If 73 districts of the 339 California high school districts are to be selected to represent the total population of districts, which set of 73 are chosen is a crucial decision. There are some groups of 73 that would not be very representative of the state, for example, the 73 smallest districts. Further, if every possible sample of 73 were chosen, some would be very accurate representatives of the total state and some would be very unrepresentative. Worse than this, it is likely that the variation in representativeness (the "variance") is so great that it would be difficult to predict within a fairly small range how representative the particular sample selected would be. For example, suppose the average daily attendance (ADA) was the variable of interest, and assume that the mean high school (ninth to twelfth grades) ADA in California is 2,500. If we took all possible combinations of 73 districts out of 339 and computed the average ADA for each combination, we might get, say, values anywhere from 300 to 6,000. And let us suppose that about two-thirds of these sample mean ADA's fell between 1,500 and 3,500. This would mean that if we selected one particular sample, we would have very little confidence in our ability to estimate how representative it was of the total population since the chances are as high as one in three that the sample mean ADA would differ from the population mean ADA by over 1,000.

Stratification is one method of reducing this variation. The result of stratification, when done well, is to eliminate or reduce greatly the possibility of selecting samples that vary greatly from the population mean, therefore reducing the sampling variance. This leads to increased assurance that the sample values are close to the population values.

Stratification will increase the efficiency of sample estimates to the degree that the strata are well chosen. If the strata are poorly chosen, that is, the population is not homogeneous within and not heterogeneous between strata, then there is no gain and there may even be a loss due to stratification.

Classification by expert judges

Guidelines for developing strata are given by Hansen, Hurwitz, and Madow (op cit):

---

*Grateful acknowledgement is made to William G. Madow, who served as consultant for the sampling procedure. Dr. Madow is co-author of one of the standard text and reference books in the field, Survey Sample Methods and Theory, Vols. I and II (Wiley, 1953).

> Judgment in establishing the strata used in selecting a sample is a mark of a good sampling . . . In establishing stratum boundaries use should be made of all information that helps classify members of the population into groups which differ from one another with respect to the characteristic being measured . . . Past data, intuition, the judgment of experts in the field, or what one might think of as merely good guesses can all be used effectively in setting up strata . . . Whether objective information is available or not, the final determination of the strata is a subjective matter, in which the decisions must be judgments. (Vol. I, pp. 47, 183, 219)

Regarding number of strata to be used, Hansen, Hurwitz and Madow recommend that the number be large:

> Were it not for the comparatively intangible factors of cost and other difficulties that arise from the use of a great many different sampling fractions in processing the sampling returns and preparing estimates, the rule would be to have a great many strata. (p. 219)

With these guidelines in mind, it was decided to use the method of expert judges to stratify the high school and unified districts into as many strata as they found necessary, since this method was most adequate for meeting the criterion for establishing strata.

A group of five experts* on the conditions in the public schools of California were assembled to classify the 339 union high school and unified school districts. These five were carefully selected so as to include at least two who knew each school district well. They met from 10:00 A.M. until 5:00 P.M. one day, working independently in the morning and as a group in the afternoon. Each was presented with a set of cards containing the names of the districts printed thereon. After preliminary explanation and general discussion of the total project, the following instructions were read to them by the author:

> Before each of you is a deck of 339 cards, each card containing the name of a California unified or union high school district. Before the day is through, we would like you to have these districts classified into a moderate number of groups -- say, somewhere between five and twelve. First, you are each to take your own deck of cards and decide independently on a classification. When that is completed, you will come together and agree on a mutually satisfactory classification. The end result of your efforts will be a set of categories with definitions and placing of each district into one of these final categories.

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*Our thanks for the excellent work generously contributed by Hollis Allen, Orange County State Teachers College; Robert Clemo and Floyd Taylor, California State Department of Education; Frank Farner, Claremont Graduate School; and Edgar Morphet, University of California, Berkeley.

> The basis of classification is administrative effectiveness. Each class should represent districts where a given superintendent would operate with approximately equal effectiveness. If two districts appear in different classes, this means that you feel that, for whatever reason, it takes a different set of personal characteristics for an administrator to operate at a given level of performance in one district than the other. For example, if you feel that to be superintendent in Los Angeles requires different qualities than being superintendent in a rural one-school district, then these two districts should be put in different classes.
>
> The term "administrative effectiveness" is to be interpreted globally. In general it refers to the administrator's ability to create conditions under which children profit most from their school experience. Presumably this requires effective community relations, teacher morale, and relations with school board, as well as many other factors.
>
> Are there any questions?
>
> Now, please take your cards and go to your individual rooms. Hopefully you can each complete your classifications by lunchtime. After lunch, we'll come together.

All judges finished their independent classifying by lunchtime. After a brief lunch they reassembled, and the following instructions were given:

> Now we would like you to arrive at a mutually acceptable classification. We suggest that you begin by having each person present his classification and the bases for it, so that a variety of approaches are in evidence. Please recall that we would like you to arrive eventually at categories, their definitions, and the districts that fit into each.
>
> I shall remain with you for purposes of clarification of the task, but I would like to remain out of the judging situation.

During the course of the afternoon, two additional definitions of the task were offered to minimize ambiguity:

> To which districts would you send a given administrator, with the expectation that he would do equally well in any of them?
>
> If you had an administrator you wished to place, in which districts would you judge he would do equally well?

Results of the morning's independent classification revealed two major bases on which the judges had chosen to classify districts:

1. The demographic characteristics of the district, such as size, population density, chief industry, location, wealth.

2. The level of educational quality required by the district community from the superintendent. This level was felt to be a function of the educational sophistication of the community members, their concept of the type of school and program desired, and the degree of leadership expected from the superintendent.

During the course of the afternoon, the group decided to make two independent classifications using each of these criteria and later combine the two into one classification. The categories finally agreed upon are presented in Tables 1 and 2.

Table 1

Initial district classification systems of expert judges: Demographic (Dem)

Description	Number of Districts in Class
1. Metropolitan city districts	5
2. Large, cohesive city districts	12
3. Large districts within a suburban sprawl	37
4. Medium size population centers with a dependent suburban or rural region	35
5. Medium size districts within a suburban sprawl	31
6. Medium size, cohesive town districts with no suburban or rural region	30
7. Small districts (9th-12th grade ADA, 300-1000)	104
8. Tiny districts (9th-12th grade ADA, under 300)	80
Total	334*

---

*Kern County Union High School District was eliminated from the population as being too unique, and four districts listed by the State Department of Education no longer existed: Raymond Granite, Sunnyside, Monrovia-Duarte, Citrus.

Table 2

Initial classification system of expert judges: District Quality Requirement (DQR)

For this classification, two dimensions of three points each were used to generate a nine-category classification.

Dimension I. Quality of educational program required of school (program)

The high end of this dimension is characterized by such qualities as:
a) the community demand for "culture" in the schools and in the superintendent,
b) community willingness to support schools adequately,
c) belief by community members that buildings are more than mere housing of pupils,
d) community, or traditionally, school board commitment to effectiveness in public schools.

	Description	Number of Districts in Class
High	District requires a high quality school system.	37
Medium	District requires an average quality school system.	157
Low	District makes no demands for quality and may even oppose attempts in that direction.	140

Dimension II. Educational leadership required of superintendent (leadership)

The high end of this dimension represents a district requiring a high degree of educational leadership, including breadth of interest and knowledge, experimentation, initiative, and innovation; and that looks to the superintendent to keep the school system modern and in a leadership role.

High	District requires a high degree of leadership from the superintendent.	29
Medium	District requires an average amount of leadership from the superintendent.	206
Low	District has no interest in educational leadership and may even oppose attempts at innovation by the superintendent.	99

What a district "required" was inferred in part from the types of superintendents it sought and hired, and the type of superintendent behavior it has or has not tolerated.

These two dimensions were combined, and each district was placed in one of the resulting nine classes. The resulting distribution is given in Table 3.

Table 3

Distribution of districts in district quality requirement (DQR) classification

Description			
Program	Leadership	Designation	Number of Districts
High	High	1	13
High	Medium	2	24
High	Low	3	0
Medium	High	4	16
Medium	Medium	5	117
Medium	Low	6	24
Low	High	7	0
Low	Medium	8	65
Low	Low	9	75
			334

At this point, the committee of expert judges turned over to the present author the task of analyzing these two classifications, finding their interrelations, and suggesting ways to the judges for combining the two schemes. This analysis follows.

Combining classifications. The first question raised by the classifications by both demographic (Dem) and district quality requirement (DQR) variables concerns the relation between the two. This relation is presented in Table 4.

Table 4

Relation between demographic and district quality requirement classifications

		Demographic Classification								
		Metropolitan 1	2	3	4	5	6	7	Tiny Dist. 8	Row Total
DQR Classification	1	1	3	6	1	1	0	1	0	13
	2	1	1	2	3	5	3	7	2	24
	3	2	2	3	4	3	0	2	0	16
	4	1	5	18	19	12	12	36	14	117
	5	0	1	1	0	5	3	4	10	24
	6	0	0	4	6	4	10	28	13	65
	7	0	0	3	2	1	2	26	41	75
Column Total		5	12	37	35	31	30	104	80	334

Entries are number of districts.

To give a simpler picture of the general relation between the two classifications, each was contracted into a dichotomy. Table 5 presents this result.

Table 5

Relation of dichotomized classifications

		Demographic	
		Large Districts (1-6)	Small Districts (7-8)
DQR	High (1-4)	109 (.72)	62 (.34)
	Low (5-7)	41 (.28)	122 (.66)

(Figures in parentheses are percentages of each column.)

There is a significantly high relation between the two classifications. Districts from larger demographic units are judged to require more educational quality and leadership than the districts from smaller units. Seventy-two per cent of larger districts were rated high on DQR, while only about one-third of the small districts were so rated.

(Another variable the judges felt to be of related interest to classification was the relation between whether a district was a unified or a union high school district and the Dem and DQR classifications. Since the original sampling did not consider the difference between unified and union districts, these data are not relevant. However, this distinction was later introduced into the sample; see page 17. These data are presented in Appendix A.)

The total number of categories when the two schema are combined is fifty-six (8 Dem by 7 DQR). Of these, ten have no districts, ten have one district, and eight have two districts. For sampling purposes, it is desirable to have a fairly large number in each category so that it may be well sampled. On the other hand, it is also desirable to retain those distinctions between categories that appear relevant to their criterion of classification, namely, administrative performance. While their small numbers would suggest combining Dem categories 1 and 2 -- the very large city districts and the large city districts -- experience indicates a qualitative difference between being superintendent in a large metropolis like Los Angeles or San Francisco and being superintendent in a large population center like Stockton or Fresno or Sacramento. Hence, it would be unwise to combine 1 and 2. Similar considerations suggest retaining all eight categories of the demographic system.

The reduction of the nine classes of district quality requirement seems somewhat more feasible. Since these classes are generated by two dimensions, the independence of these dimensions will first be tested (see Table 6).

Table 6

Relation between the two dimensions of the DQR classification

		Leadership		
		High	Medium	Low
Program	High	13	24	0
	Medium	16	117	24
	Low	0	65	75

Clearly, there is a significant relation between these variables. Sixty-one percent of the districts are predicted perfectly on one variable from a knowledge of the other, (high-high, medium-medium, low-low) and no districts are as much as two units apart (high-low or low-high). A defensible possibility is to combine these nine categories into the three on the diagonal. The question, then, is what to do with the four nonempty categories that fall outside the diagonal (high-medium, medium-high, medium-low, low-medium).

In a district where an extraordinarily high demand is made on either the quality of the education program or the quality of educational leadership and the requirement for the other of these is average, it seems reasonable to assume that the more extreme demand for quality will be the one to which the superintendent must respond. This leads to combining high-medium and medium-high with high-high.

The placement of the other two categories, medium-low and low-medium, requires more detailed consideration. Medium-low is characterized by communities which have a moderate sophistication about and demand for a quality educational program but either actively oppose attempts at leadership or else tolerate a superintendent who is ineffective. This suggests that the requirement for quality is quite low. On the other hand, a low-medium situation is typically a superintendent who is ahead of his community in educational sophistication and the community is following his lead, or at least not opposing it. These districts seem, then, to have a moderate requirement of the administrator. If these interpretations are accurate, medium-low should be combined with low-low and low-medium combined with medium-medium. This leads to the following scale (Table 7):

Table 7

Revised DQR classification

High DQR	(H-H, M-H, H-M)	53 districts
Medium DQR	(M-M, L-M)	182 districts
Low DQR	(L-L, M-L)	99 districts

Combining these with the eight demographic classes yields twenty-four classes in all. However, five of these have two or fewer districts. Of these five, two are in the larger demographic strata and will be combined with the nearest column entry. The other two will be omitted from the population. Table 8 gives the resulting distribution.

Table 8

Revised composite categories

with number of districts in each

		Demographic							
		1	2	3	4	5	6	7	8
	High	4	6	11	8	9	3	10	(2)
DQR	Medium	1	5	22	25	16	22	64	27
	Low	0	1	4	(2)	6	5	30	51

() = dropped from population
- = combined with above

This leaves nineteen categories, each with three or more districts. This classification with component districts was then returned to the five judges for their evaluation of this method of combining categories and their judgment of the homogeneity of the resulting classes. With minor changes in wording (which have been included in the present presentation), the judges gave their unanimous approval of the resulting classification. Table 9 presents the descriptions of the strata and the number of districts in each.

Table 9

Final categories of expert judges

Stratum	Description	Number of Districts
1.	Metropolitan city districts, high requirement for quality education (DQR).	5
2.	Big city districts, high DQR.	6
3.	Big city districts, medium DQR.	6
4.	Large suburban districts, high DQR.	11
5.	Large suburban districts, medium DQR.	22
6.	Large suburban, low DQR.	4
7.	Medium size population centers, high DQR.	8
8.	Medium size population centers, medium DQR.	25
8a.	(dropped) Medium size population center, low DQR.	(2)
9.	Medium size suburban district, high DQR.	9
10.	Medium size suburban district, medium DQR.	16
11.	Medium size suburban district, low DQR.	6
12.	Medium size cohesive towns (no suburbs), high DQR.	3
13.	Medium size cohesive towns (no suburbs), medium DQR.	22
14.	Medium size cohesive towns (no suburbs), low DQR.	5
15.	Small districts (300-1000 ADA), high DQR.	10
16.	Small districts, medium DQR.	64
17.	Small districts, low DQR.	30
17a.	(dropped) Tiny districts (300 ADA), high DQR.	(2)
18.	Tiny districts, medium DQR.	27
19.	Tiny districts, low DQR.	51
	Total	330

Strata 8a and 17a were dropped from the sample as being too unique.

Selection of sample

A prime requirement of a sample is that every unit has a know probability of being selected. This property allows for a calculation of the accuracy of the estimates of the population made from the sample. In the present stratified sample a simple random sample was selected from within each stratum. That is, if k districts are to be selected from a stratum, then every possible group of k districts in a stratum has the same probability of being chosen; this probability will vary between strata depending on the size of the stratum and the size of sample from that stratum. The size of the sample taken from any one stratum is in general proportionate to the size of the stratum. One problem arising from proportionate sampling is that samples from very small strata are too small to be reliable.

> "A possible modification of the rule, therefore, [in order to avoid serious under-representation] is to arbitrarily oversample the smallest sized stratum, perhaps by a factor of two as compared with the result that would be obtained by the rule as originally given." (Hansen, Hurwitz, and Madow, Vol. I, p. 218)

One further exception to sampling each stratum proportionate to its size occurs for the strata with a very large number of districts. In this case it is economical for the sample to be relatively smaller, since a stable measure of that stratum can still be achieved without having to take as much as a proportionate sample would require.

These considerations lead to different proportions of districts being chosen from the various strata. Thus, this type of sample is called disproportionate stratified sample. Such a sample requires that for any overall measure characterizing the total population, results obtained on sampled districts must be weighted to retain the true population proportions.

In order to characterize the entire population on any one measure, the sum of the values on that measure for the sampled districts within each stratum must be multiplied by the stratum weight, these weighted values summed over all strata, and divided by the total number of districts in the population.

Within each stratum the districts were ordered by decreasing high school (ninth-twelfth grade) ADA. The sample was chosen by drawing random numbers for each stratum and selecting the corresponding districts. For example, if a stratum had ten districts, the districts within the stratum were arranged in order of ADA, the district with the largest ADA being number one and the smallest ADA number ten. If the random sample was to be of size three, then three random numbers between one and ten were selected, and the districts corresponding to these numbers were selected for the sample. When a stratum was very large (strata 5, 8, 10, 13, 16, 17, 18, 19), stratification on the basis of size was adopted to insure a good distribution of size within the stratum for those districts selected. This was done by dividing the stratum into two substrata (or in the case of strata 16 and 19, three substrata) and selecting a subsample from within each substratum. For example, in stratum 17 (thirty districts) three random numbers were chosen between 1 and 18, and two were chosen between 19 and 30, thus retaining the random procedure but insuring a good size distribution in the sample.

After the sample of districts was drawn, it was decided to distinguish the union from the unified high school districts. By this time, experience was indicating that for both the study of the superintendent and the study of the principal it appeared to make a difference in the context of administrator performance as to whether the district was unified or union. Therefore within each of the nineteen strata the union and unified districts should be sampled separately. However, an examination of the sample already chosen revealed that it was remarkably similar to the sample that would have been chosen if unified and union were sampled separately -- so similar that little would be gained by resampling. The only change brought about by the introduction of the union-unified distinction, therefore, was to change the weights for each stratum. Now every sample of unified districts in a stratum sample represented all the unified districts in that stratum. The sampling by strata and the weights are given in Table 10.

Table 10

The sample of high school union and unified districts by strata, with weights

Stratum	N_f	n_f	Wt_f	N_u	n_u	Wt_u
1	5	5	1.00	0	0	-
2	5	3	1.67	1	0	-
3	4	2	2.00	2	1	2.00
4	6	2	3.00	5	1	5.00
5	3	1	3.00	19	4	4.75
6	1	0	-	3	2	1.50
7	0	0	-	8	3	2.67
8	0	0	-	25	5	5.00
9	8	2	4.00	1	1	1.00
10	12	3	4.00	4	1	4.00
11	4	2	2.00	2	1	2.00
12	1	1	1.00	2	0	-
13	3	2	1.50	19	3	6.33
14	3	2	1.50	2	1	2.00
15	5	2	2.50	5	1	5.00
16	22	1	22.00	42	5	8.40
17	5	2	2.50	25	3	8.33
18	12	3	4.00	15	2	7.50
19	23	3	7.67	28	3	9.33
Total	122	36		208	37	

N = number of districts in population

n = number of districts in sample

Wt = weight

f = unified

u = union

N = 330

n = 73

From the design of the study (see chapter two) it is clear that samples must be chosen of several more administrative units in order to have a sample of the various types of administrators required. These units include high schools, junior high schools, and elementary schools. The same sampling principle used to select the unified, and the union high school districts was used for these other units. Some special sampling problems arose in some of these samples and these as well as the final sampling are presented in Appendix B.

Adequacy of the sample

Table 11 presents the sample and the population values for various size categories:

Table 11

Population and sample size characteristics

	Population		Sample	
Number of High schools and unified districts	339		73	
Unified		122		36
Union high school		212		37
Number of elementary school districts	1242		66	
Number of high schools	682		88	
Number of junion high schools	326		42	
Number of elementary schools	4601		148	
Total number of schools	5609		278	

A few comparative statistics were computed to determine how closely the sample approximates the population. These are presented in Table 12 (the p value represents the probability that a sample chosen from this population would have a greater difference from the population value than this sample).

Table 12

Comparison of sample and population

	Population	Weighted Sample	p
Mean ADA	2,388	2,294	.93
Mean assessed valuation per ADA	44,807	49,624	.89
Mean expenditure per ADA	55,473	57,847	.97

Thus, the sample chosen seems to be a very good estimate of the population on these three measures.

The purpose of stratification is to reduce the variance within the population by reducing the within-strata variability on a number of relevant variables. It is therefore appropriate to inquire as to the degree to which the variance in fact was reduced by the stratification. The larger the reduction in variance, the greater the confidence that the results obtained from the sample are applicable to the total population, and therefore the more likely a valid sample will be generated by using stratification.

The same three variables were selected to test the gain due to stratification: a) size of district (as measured by 9-12 ADA), b) wealth of district (as measured by assessed valuation per ADA), and c) expenditures on schools (as measured by expenditure per ADA). These variables were chosen because they were felt to be relevant to administrator performance, were available for each school district, and (the last two) were relatively independent of the conscious basis used by the judges for stratification. The figures were provided by the Educational Research branch of the California Department of Education.

For size, stratification reduced the variance by 61%. Although this is quite a high reduction, it is not as impressive as it appears since the judges were consciously using ADA as a part of one criterion for one of their two bases for stratification.

For wealth of district, the reduction in variance was 57%, a more impressive result since wealth was not one of the judges' criteria. The same may be said for expenditures where stratification reduced the variance by 49%. Thus, by all three measures stratification resulted in a very substantial reduction in variance, thereby greatly increasing the reliability of inferences made from results obtained on the sample to characteristics of the total population of school districts in California. In general, it means that we will obtain the same accuracy with our stratified sample that we would have obtained with a random sample twice as large.

Classification by Objective Methods

Now that the sampling based on the expert judges' classification has been completed, the method for deriving district types must be returned to. Since the plan for classifying districts involved a combination of the experiential or expert judges method, and the objective method, the latter must now be explored.

Presumably the judges' basis for classification was related to the social structure of the community included within the school district. An objective characterization of the factors within the district community relevant to education would seem to have face validity as an approximation of the bases for the judges' decisions, that is, a method of classifying school districts on a basis relevant to administrative effectiveness.

A review of the relevant literature offers some guidelines for selecting relevant community variables, although relatively little has been done in the study of social class factors in relation to education. Most studies delve deeply into the effects or contributions of education on particular social strata, without specifying how these classes are to be delimited.

Some studies draw upon certain situational factors relevant to their particular ends, which are closely related to social class. The St. Louis Board of Education attempted to determine how closely parental attitude was correlated with school attendance (Kriesberg, 1963). They questioned 476 parents of children selected randomly from 135 public elementary schools in the St. Louis area, and found that their two variables were highly correlated, the most significant factors being: the age and grade of the child; the age of the parents and their completed education; the number of times the family moved within a two-year period (mobility); income; number of years in the neighborhood; number of persons in the home; the status of home ownership; occupation; and source of income. Those factors which were not significant were sex; race; parental structure of the home; rural or urban background; and the respondent's presence in the home when the child left for and returned from school. Here, there are many indicators of social stratification, which are relevant to school attendance and very likely to the type of problem for a school administrator.

Another type of town stratification occurs in Coleman's, The Adolescent Society (1961). He divided ten towns in northern Illinois according to size: five small towns of 1-500 population; two suburbs of 9-17,000; two small cities of 24-100,000; and one parochial Chicago school. He draws his class distinctions from the traditional five divisions and a process similar to Warner's (1960) Index of Status Characteristics.

The dominant theme in the newer conceptualizations of social stratification is that class standing can not be positied simply on statistical socioeconomic factors, or on national figures. Barber (19) says that there are three variables which must be used to determine individual social status: socioeconomic position, family status, and local community status. The accent here, and in other recent studies, is on the individual's position and prestige in relation to his own community.

Warner (1960) in Social Class in America, also emphasizes the resident community. One of the measures he uses for status is the fairly standard Index of Status Characteristics, based on four basic factors: occupation, source of income, house type, and dwelling area -- as well as the related prestige factors. But the second is a measure of participation in the community translated into social ranking. This is done by matched agreements, symbolic placement, status reputation, comparison, assignment, and institutional membership -- methods which will be more closely examined in relation to Hollingshead's studies.

In a study he did in New Haven, Hollingshead (1963) also followed a standard method for stratifying the community. He classified it vertically by racial, ethnic, and religious lines, and horizontally bo social strata which were equivalent in each vertical group. The horizontal stratification was measured by address, occupation, and years of schooling. Hollingshead defines five classes: the "Yankees"; the managerial class, non-inheritors; small tradesmen and white-collar workers; semi-skilled; and unskilled workers, most of whom have not finished the elementary grades.

In Elmtown's Youth, however, Hollingshead (1949) had used a more community-oriented study. After rejecting a single factor index of social stratification in Elmtown, Illinois, and the Chapin Scale of Social Stratification, he decided to use long-time residents of the town as raters of the 535 relevant families.

Hollingshead found that certain families were always used as reference points for class distinctions. He interviewed thirty individuals who had lived in Elmtown at least twenty years, and questioned them about the reference point families. His questions involved five factors: residence; income; community participation; family background; and reputation (prestige). He then had twenty-five of the same people classify those rated into groups, or classes. Seventy-six percent divided the families into five strata; there was agreement on seventy-seven percent of the original ratings. Thus twenty representative families were put on a "control list" for reference. Hollingshead then selected secondary raters, who had not been included in the preliminary tests, and were not related to those families to be rated. They themselves were also required to be of a fairly stable social position in Elmtown. After rating the 535 families, the second raters were asked to tell which of the control families each most closely similated.

Using these studies and personal experience with the school situation as a basis, the following analysis of the social situation was developed for use in the present project.

There are at least four methods of assessing community variables relevant to school administration. Some of these have been used in previous studies; others were developed for this project.

1) The power structure of the community

2) The characteristics of the school board members

3) The ability and willingness of the local district to pay for the school program (local support).

4) The community's sociological characteristics such as size, median age, income, education, and ethnic distribution.

5) Expert ratings of school districts.

The last has been discussed above.

Power structure

Although a detailed description of the power structure, especially one focused on the types of pressures brought to bear on the school administrator, would be very valuable, it is not feasible for the present study. This investigation involves almost one hundred school districts and it would be extremely difficult to do a competent job of assessing the power situation for each of these districts. Such an analysis would be appropriate for a follow-up to the present project in which a few districts could be studied intensively to test the results obtained in the present study. It would also be useful for a longitudinal study of a small number of school districts. Although the importance of power structure analysis is acknowledged, it is not within the capacity of this investigation.

School board

The school board membership is the most direct expression of the community's attitudes toward the schools. Since most school boards are elected, it is reasonable to assume that the board membership reflects the attitudes of the electorate. Further, since the school administrator works directly with the school board, board members represent an important aspect of the community situation for the administrator. Measurement of such properties as political attitudes, attitudes toward education, and longevity on the board would be very useful for describing the situation in which the school administrator finds himself.

It was intended that these measures be used for descriptive purposes; however, returns from the school board members in the sample reached only about fifty percent. Since it is likely that there is a systematic difference between those who did return the questionnaires and those who did not, the data available would not be a reliable method for characterizing school boards. While this method could not be used in the present study, the assessment of traits of board members is recommended for future studies when better returns from school boards are available.

Local Community Support

Since school districts exist largely as a result of local financing, one significant difference among district situations lies in the ability and willingness of the community to support a quality school program. In particular the following relevant factors used in the study will be discussed and the methods for measuring them described.

Tax wealth. A wealthy community has less difficulty being able to pay for a quality education program or for a good school administrator than a poor community, therefore the wealth of a community is very likely to influence administrator performance.

The Department of Education of the State of California in its Annual Fiscal Report publishes the assessed valuation (AV) of each school district. For some districts the ratio of AV to the number of pupils in the school district is presented. The number of pupils is measured by the average daily attendance (ADA) for kindergarten through the twelfth grade (for unified districts). Hence the figure used for available tax wealth is AV/ADA.

Since individual school attendance area figures are not published, each attendance area within each school district was assigned the AV/ADA score attributed to its surrounding school district. This decision was justified by the fact that each school district is expected to share its actual and potential wealth equally among its constituent schools.

Each district is assessed at approximately twenty-five percent of the real value of its property. The percentage in California actually varies from twenty to twenty-nine percent among the various counties.

Valuations were weighted to take account of this descrepancy. All unified, and all union high school districts in the state were ranked on AV/ADA, divided into deciles and each district was given a number indicating the decile into which it fell. A decile score of zero meant that the district was in the lowest ten percent of all California districts on AV/ADA, nine indicated the highest ten percent, and so on.

This procedure was used to standardize all of the variables to follow, so that comparisons between variables could be made more directly. The scores on each variable were listed in order of descending size and the resultant distributions were divided into ten intervals each containing one tenth of the population (deciles). Besides permitting comparisons, deciling produced a "flat" or "horizontal" distribution of scores, as compared to the normal curve distribution frequently expected and occasionally encountered with social and psychological variables. Flattening the distribution places more scores at the ends of a distribution than does a normal distribution. This result aids in the key cluster analysis used on the data in the next step.

School expenditure. Expenditures per ADA (CE/ADA) reports current expenditures for essential educational services. It indicates the willingness of the community to use its wealth for school purposes. Measurement is complicated by the fact that elementary school pupils require less money than high school pupils for the same quality of education. The districts, then, were first divided into unified (kindergarten through twelfth grade) and union (nine through twelve, or seven through twelve) and deciles derived for each type separately. Each district was assigned a decile score in the same manner as for AV/ADA.

Sociological characteristics

A description of the school district in terms of sociological characteristics can be accomplished very readily with the assistance of the 1960 Census of Population. The variables selected from the Census for this study were age, race, marital status, income, education, occupation, school enrollment, and geographical mobility. Measures of each of these variables were obtained for each school district in the study.

Since the sampling units employed by the U. S. Census are not ordinarily identical with the sampling units used in the present study, it was necessary to find the Census units which most closely approximate the various school districts. This was accomplished by placing a map of California school districts over the map of California Census units, thus finding the Census units approximating each school district in the sample.

Each school district or school attendance area was converted into its equivalent census tract or standard metropolitan statistical area. Since school district boundaries rarely overlap with census tract boundaries, to match census areas with school districts, the following rules were adopted for the conversion:

a) If a district or attendance area covered three-fourths or more of a census tract, division, or standard metropolitan statistical area, the entire tract, division, or area was attributed to that school area.

b) If between one-fourth and three-fourths of a tract, division, or area was covered by a school, half of the total population of that census area was attributed to the school area.

c) If less than one-fourth of a census tract, division or area fell within a particular school's or district's attendance area, that census area was disregarded.

d) If a single census unit covered two school attendance areas of districts, that census unit's population figures were attributed to both school areas.

Despite these rules, some errors of conversion remained unavoidable. For example, school district boundaries are often drawn to exclude certain elements of the population, such as minority groups, whereas the corresponding census tracts do not exclude such elements. There seemed to be no feasible way to eliminate this source of error.

This conversion was used to calculate values for the districts. For each school district, each measure was computed for the district's component census units and the mean value derived. For example, to derive the median age of a school district, the median age of each census unit within the district was multiplied by the number of people in the census unit. These products were added across all component census units and divided by the total number of people in the district. The result was the median age of the school district.

Following is a description of each variable, why it was chosen, and the method used for measuring it.

Several variables have been demonstrated to have an influence upon voting behavior (in particular, voting for school board members) and degree of interest in school affairs. Carter (1960) has shown that young, highly educated persons in professional and technical occupations with children in the public schools tend to take more interest in school affairs than older, less educated, retired persons without children in the public schools. Lipset et. al. (1954) found higher voting-turnout on the part of the younger, more educated persons as compared with the older, less educated segments of the community. Thus, we may expect that school districts characterized by a high percentage of young, married, educated people will take more interest in the schools in the form of voting for school-relevant legislation than districts characterized by a high percentage of older and less educated persons. The former districts are likely to make greater demands for educational quality than the latter districts.

Median age. Information on age is obtained by the Census through asking the question, "When was this person born?" The data are presented in sixteen categories from which were calculated the mean age for each school district.

Percent of married people. The data on marital status are obtained by the Census in three categories (single, married, widowed and divorced) from which were calculated the percentage of the total married population of the school district.

School enrollment ratio. Data on school enrollment are tabulated separately for public and private (including parochial) schools and for the various levels of the public school system: kindergarten, elementary and high schools. From these data, an "enrollment ratio" was calculated, i.e., the percentage of the total population of the district enrolled in the public schools. College enrollment data were excluded since this study is concerned with community interest in elementary and high school education.

School (district) size. In addition to the school enrollment, the size of the school district makes a difference in the administration of the school. Size is usually measured by ADA. This information supplied by the State Board of Education in its Annual Financial Report, was used to classify districts by size.

Thus, for each district, there is a decile score from zero to nine computed for, a)median age, b)percent of married people, c)enrollment ratio, and d)size of school or school district (ADA).

Geographical mobility. Stable patterns of residence are assumed to present fewer problems for the school administrator than fluctuating patterns since the latter involve the difficult issues of integrating new members, and separation from old friends. Communities characterized by fluctuating patterns of residence may show less involvement with the schools. Such communities should also require additional efforts on the part of the administrator to communicate his ideas to the inhabitants of his district.

In general, it is expected that different degrees of geographical mobility will present different problems for school administration.

Mobility was measured by dividing the number of people who left the county or standard metropolitan statistical area (SMSA) in the five year period between 1955 and 1960 by the total number of people in the district in 1960 who were over five years of age. Again the scores are expressed as deciles with the higher number meaning greater mobility, or less stability.

Percent white. The implications of this variable for school administration in California center primarily around the usually lower socioeconomic status of minority group members and the possibility of racial tensions. School districts containing a large proportion of certain minority group members are usually faced with the consequences of lack of motivation for school achievement, with the necessity of instituting remedial courses, with difficulties in the recruitment of teachers and perhaps with more subtle problems attributable to relations between different racial groups.

The possibility of racial tensions as a function of the relative proportions of each racial group suggests the importance of using a measure of the percentages of each group as a characteristic of the school district.

Information on race is obtained by the Census through asking the respondent to classify himself in racial terms. The concept of race used by the Census is "That which is commonly accepted by the general public". The Census classifies the population into three racial groups: white, Negro and other, including Orientals and American Indians. Persons of Mexican origin are classified in the first category. Since the interest here is in the relative number of members of the minority groups in each district, the percentage of white persons of the total population of the district will be used as the index of the racial composition of the district. These percentages are expressed as deciles with the higher numbers meaning a larger proportion of whites.

Personal income and variation in income. Wealthy people probably have different attitudes about school finances than do poor people. It is difficult to predict the direction of this difference, but it seems a sufficiently potent factor to merit careful investigation.

The U. S. Census obtains information about income through asking the respondent to report his "total income". From the resulting distribution, the median income of the district was obtained as well as the semi-interquartile range as a measure of the variability in incomes in the different districts. Variability seems important since it reflects the degree to which the district contains both rich and poor (high variability) as opposed to having persons of approximately equal incomes (low variability).

The median income and the variability of income within the district were both converted to deciles with a high score meaning high income and high variability, respectively.

Education. Attitudes toward education are often related to one's own education. Diverging attitudes in this area could be very influential in determining the kind of administrator who will succeed in a given district.

Information about education was obtained through the following two census questions:

a) "What is the highest grade (or year) of school he has ever attended?"

b) "Did he finish this grade (or year)?"

The census data includes the median number of years of school completed for persons twenty-five years old and over. This figure was converted to deciles with the higher score designating a district with a larger median number of years of schooling completed, that is, more highly educated districts.

Occupation and variation in occupation level. The occupational pattern of a community often determines its values and attitudes toward education, and is also related to its expectations of the man who is to be a school administrator. For example, a community of college professors may want a different kind of person and performance from a school administrator than a community of lumbermen, or of farmers.

The classification of occupations is much more complex than the classification of the previously discussed variables. Income, for example, is easy to classify becasue it is quantitative along one scale. But occupations, by and large, are simply diverse, and differ from each other along many dimensions and therefore, pose a difficult problem for arraying them along one continuum. The census categories of occupation are given in Table 13.

Table 13

U. S. Census Occupation Categories

Professional, technical and kindred workers (7)
Managers, officers, and proprietors, including farm (6)
Clerical and kindred workers (3)
Sales workers (3)
Craftsmen, foremen and kindred workers (4)
Operatives and kindred workers (2)
Private household workers (2)
Service workers except private household (2)
Laborers, except mine (1)
Occupation not reported

The numbers in the brackets following each occupational category refer to the levels of occupation used in the system of occupational classification described in the following pages.

In order to classify these occupations into classes relevant to school administrator performance an analysis was made of various classification methods and of related variables, such as social status. Such an analysis will lead to a forming of the census categories into a continuum from which they can be quantified and used for future analysis.

Of the several occupational classifications available in the literature (Shartle, 1952), none seemed particularly suitable to the purposes of this study without adaptation. A basic system is that developed by Edwards (1943) for the U. S. Census. Occupations requiring similar qualifications are grouped together so that the classification is essentially based on skill. This principle is not, however, followed consistently: the dimension of skill is confounded with a second dimension representing the type of industry in which the occupation occurs. Nevertheless, the Census classification constitutes the basis of a number of other systems. Warner's (1960) Index of Status Characteristics which was constructed to predict the subjectively derived "evaluated participation" criterion, was based largely on the Census classification. While it is used extensively in many areas of social research (e.g. Miller and Swanson, 1958; Sears, Maccoby and Levin, 1957), it is not so useful if more than a dichotomous classification is desired, i.e., middle class/ working class.

The North-Hatt Scale (Shartle, 1952, pp. 115-116) differs from all other classifications in that it is entirely based upon the prestige value of various occupations. Ninety occupations were presented to a representative sample of 2920 persons who were asked to rate the occupations, ranging from U. S. Supreme Court Justice to Garbage Collector, in terms of their "general standing". The most frequent reasons given for ranking an occupation high were high pay, service to humanity, preparation required for entrance, and high social prestige.

The classification developed for the present study is based upon two factors:

a) the skill requirements of the occupation
b) the prestige value of the occupation

Occupations were selected from the Census list and arranged in descending order into seven levels. The occupations were placed in that order first on basis of skill required and then, independently, on the basis of their prestige value, as ascertained by the North-Hatt Scale. These two, independent classifications resulted in highly similar groupings. The seven levels are:

Level 7. Higher Professional: Occupations requiring a high degree of intellectual ability and activity. The work is typically concerned with theoretical and practical aspects of complex fields of human endeavor and requires prolonged training and experience. In prestige, these occupations are equivalent to about the top thirty occupations on the North-Hatt Scale. For managerial personnel, the number of persons supervised constitutes the criterion for placing a given person at one of the levels. Examples: physician, university professor (but not, for example, junior college professor), colonel, author ("serious", free-lance).

Level 6. Middle-Professional: As above, but less demanding with respect to background or the need for initiative and judgment in complex work situations. Area of competence is typically more restricted than Level 7 occupations. Examples: pharmacist, ship captain, advertising agent, elementary-school principal.

Level 5. Lower Professional: As above, but even more restricted with respect to background or the need for initiative and judgment and area of competence. Examples: reporter, surveyor, librarian, nurse.

Level 4. Supervisors and Technicians: Occupations involving supervision of others at the "first-line" level and usually requiring possession of technical knowledge on the part of the supervisor, as well as occupations requiring the highest degree of some technical skill. Examples: construction foreman, factory foreman, lithographer, private secretary, cabinetmaker.

Level 3. Skilled Workers: Occupations requiring predominantly a comprehensive knowledge of work processes, exercise of judgment and responsibility for valuable products and/or equipment. Examples: machinists, automobile repairman, stenographer, bookkeeper.

Level 2. Semi-skilled Workers: Occupations requiring high degree of manual dexterity and alertness in a well-defined work context where unusual problems are referred to others. Examples: bus driver, practical nurse, lumberman, corporal. These occupations are roughly equivalent to those found on the North-Hatt Scale at ranks 62-75.

Level 1. Unskilled Workers: Occupations requiring usually heavy manual labor and little previous experience in the specific occupation. These occupations are equivalent to the fifteen occupations ranked at the bottom of the North-Hatt Scale. Examples: farm laborer, longshoreman, porter, janitor.

Using this classification, levels were assigned to each of the Census categories. (See Table 13).

Each school district was characterized by: a) mean occupational level, obtained by weighting the level of each occupational group by the number in that group, and b) the variation in occupational level in the district measured by the semi-interquartile range, of the resulting distribution. The latter measure gives an estimate of the homogeneity of occupation levels in the community. The scores were converted to deciles with the high scores meaning, respectively, high status occupations, and high diversity of occupation within the district.

Table 14 summarizes the variables used to describe school districts and school attendance areas by the objective method.

Table 14

Variables used to describe school attendance areas and school districts

1. School enrollment ratio (Enrl)
2. Education (Educ)
3. Geographical mobility (Mob)
4. Personal income (Inc)
5. Income variation (VInc)
6. Occupation level (Occ)
7. Occupation variation (VOcc)
8. Median age (Age)
9. Percent married (Mar)
10. Percent white (Wht)
11. School (district) size (Size)
12. Tax wealth (Wlth)
13. School expenditures (Xpnd)

Key cluster analysis

There are several methods of factor analysis extant, each with its own merits and weaknesses. Of the various methods the key cluster analysis of Tryon (19) seemed to be the method most appropriate for the present data. It also has the virtue of a well developed computer program available to process the data.

The critical difference between key cluster analysis and other forms of factor analysis lies in the method by which dimensions are named.

Key cluster analysis, while by no means a complete methodological panacea, presents results in comprehensible form. Dimensions are created, and hence defined, on the basis of subsets of variables whose intercorrelations within themselves are as high as the data allow, and whose patterns of correlation with all other variables are similar. In addition, the central or "pivot" variable of each dimension must have a high correlation with a few variables and a low correlation with at least part of the remainder. As a result the meaning of each dimension can be clearly seen in these salient, tightly knit defining variables.

There are two basic types of key cluster analyses, variable analysis and object analysis. The variable analysis intercorrelates, in this case, the thirteen sociological variables and reduces them to a smaller number of clusters. Each school district is assigned a score on each cluster, and the object analysis intercorrelates the districts, reducing them to a smaller number of district types. Each district type consists of districts with a similar pattern of scores on the cluster variables. The aim of this phase of the study is the acquisition of this set of district types. These district types are to be compared with the types derived from the method of expert judges, and a final classification made. Analysis of types of personalities who succeed as administrators will be performed within each district type to test the effect of situational factors on administrative performance.

Separation of analyses. Several factors made it necessary to do several variable and object analyses on the data. Some preliminary observation of the distribution of variables, and resulting clusters made it quite clear that the clusters that emerged from the variable analyses were different for high school districts and for elementary school districts, and for school districts and school attendance areas. For these reasons separate distributions and decile intervals were computed for the following groups of districts and attendance areas:

Districts

1. Unified school districts
2. Union high school districts
3. Union elementary school districts
4. Union and unified high school districts combined
5. All school districts combined

Attendance areas

1. Unified high schools
2. Unified elementary schools
3. Unified high and elementary schools combined
4. Union high schools
5. Union elementary schools

To exemplify the method used, the results of the key cluster analysis of unified districts will be presented here. The other analyses were performed in the same fashion. Details of the remaining cluster analyses are presented in Appendix C.

For each analysis, three types of information result:

1) Census value to decile conversion score chart. This is the chart used to transform unified school district census and financial data into deciles. Table 15 presents these data.
2) Variable analysis showing the dimensions of situational variables (Table 16).
3) Object analysis showing the district types or clusters of districts, and their characteristics (Table 18).

Table 15

Unified districts. Census value to decile conversion chart

Decile Score	1)School Enrollment ratio	2)Education (Median Yrs. School)	3)Geographical Mobility	4)Personal Income (Median Family Income)
0	15.2-16.8	9.1-10.2	20.3-25.6	$ 2766-4855
1	16.9-17.6	10.3-10.5	25.7-32.5	4856-5482
2	17.7-19.4	10.6-11.3	32.6-35.1	5483-5943
3	19.5-21.1	11.4-11.5	35.2-37.6	5944-6157
4	21.2-23.1	11.6-11.8	37.7-40.2	6158-6454
5	23.2-24.0	11.9-12.0	40.3-43.1	6455-6776
6	24.1-25.0	12.1-12.1	43.2-44.5	6777-7135
7	25.1-26.4	12.2-12.2	44.6-46.2	7136-7446
8	26.5-27.8	12.3-12.4	46.3-49.5	7447-7837
9	27.9-28.8	12.5-13.1	49.6-61.1	7838-8105

Decile Score	5)Variation in Income	6)Occupation Level	7)Variation in Occ.Level	8)Median Age	9)Percent Married	10)Percent White
0	2	2.62-3.16	2	23.3-25.0	31.3-57.3	73.6-82.3
1	3	3.17-3.28	-	25.1-26.9	57.4-62.8	82.4-90.3
2	4	3.29-3.51	3	27.0-27.9	62.9-65.6	90.4-94.6
3	-	3.52-3.60	-	28.0-29.8	65.7-67-2	94.7-95.6
4	-	3.61-3.69	-	29.9-31.5	67.3-69.1	95.7-97.0
5	5	3.70-3.83	4	31.6-32.9	69.2-70.8	97.1-98.5
6	-	3.84-3.96	-	33.0-35.5	70.9-72.2	98.6-99.0
7	-	3.97-4.11	-	35.6-37.6	72.3-73.2	99.1-99.2
8	6	4.12-4.19	5	37.7-41.4	73.3-74.1	99.3-99.4
9	7	4.20-5.70	6-7	41.5-47.5	74.2-81.5	99.5-99.9

Decile Score	11)School District Size (ADA)	12)Tax Wealth (AV/ADA) (in thousands)	13)School Expenditures (CE/ADA)	
			Unified	Union
0	19-148	15-23.44	32,099-36,322	39,527-47,322
1	158-259	23.45-26.4	36,359-38,423	47,451-49,896
2	264-388	26.5 -29.1	38,500-40,022	49,985-52,465
3	390-550	29.15-32.2	40,056-41,209	52,487-54,130
4	557-816	32.3-34.4	41,793-43,919	54,179-56,724
5	817-1122	34.5-38	44,028-45,673	56,778-59,444
6	1126-1625	38.5-44	45,769-48,571	59,446-62,214
7	1663-3007	45-53	48,630-53,558	62,313-68,111
8	3021-5450	54-72	53,590-58,484	68,955-81,679
9	5678-134,324	73-327	61,955-100,279	82,307-143,651

Table 16 presents the results of the variable analysis for unified districts. Cluster analysis of the thirteen variables resulted in four clusters.

Table 16

Unified districts: dimensions of

situational variables (results of variable analysis)

Dimension	Defining Variables
1	Personal income, education, occupation variation, school district size
2	Tax wealth, school expenditures, median age, school enrollment ratio
3	Percent married, percent white
4	Median age, income variation

Intercorrelations among dimensions

	1	2	3	4	% Communality*
1	.	16	-24	01	33
2		.	-29	57	33
3			.	-17	17
4				.	10

*That amount of the variance that the variables within the cluster share with each other.

These results indicate a small correlation among dimension one and two with three, and a high correlation of dimension two with four. The percent of communality exhausted by each dimension is a measure of the significance and stability of the measure. This means that the first two dimensions, relatively uncorrelated, account for most of the variation among the variables.

A summary of the dimensions found in the other analyses is presented in Table 17.

Table 17

Summary of dimensions from variable cluster analysis for all types of school attendance areas and school districts

Unit	Dimension 1	Communality	2 2	Communality	3 3	Communality	4 4	Communalit
Unified Districts	Inc Educ VOcc Size	33	Wlth Xpnd Age Enrl	33	Mar Wht	17	Age Vinc	10
Unified High School Attendance Areas	Inc Educ Occ Mob	37	Wlth Xpnd Wht Enrl	34	Wlth Xpnd	09	Age VInc Inc	15
Unified Elem School Attendance Areas	Inc Educ Occ Wht	37	Wlth Xpnd	25	VInc VOcc Wlth Xpnd	06	Age Enrl Inc Mar	21
Union High School Districts	Inc Educ VOcc Wht	50	Wlth Xpnd Age Size	26	Mar Wht	12	Enrl Occ	14
Union High School Attendance Areas	Inc Educ Occ Wht	44	Wlth Xpnd Occ VOcc	24	Wht Age Inc	20	Enrl Mob	20
Union Elem School Districts	Inc Educ Occ Wht	45	Wlth Xpnd Size	39	Mob Xpnd Age	07		
Union Elem School Attendance Areas	Inc Educ Occ Wht	46	Wlth Xpnd Mar	32	Occ VOcc Mob	18		

From this summary several points emerge. Two factors occur consistently and strongly through all seven analyses. These may be called Social status (dimension 1) and Land wealth (dimension 2). The first refers to the social and economic level characterizing the people in the area, the other describes the value of the property -- the basis for school financing -- and the amount of money spent on schools. The elements constituting these factors can be seen clearly when the variables are tallied over all seven analyses. For the Social status dimension the following variables occurred the number of times indicated:

Income	7	Occupation variation	2
Education	7	Geographical mobility	1
Occupational level	5	School district size	1
Percent white	5		

Hence this variable is the well known socioeconomic index made up primarily of income, education, occupation, and ethnic distribution. The high end of the dimension is a community characterized by predominantly white, well-educated people with high income, and high status occupations.

The Land wealth variable had the following constituents:

Tax wealth	7	School enrollment ratio	2
School expenditures	7	Percent white	1
Median age	2	Occupational level	1
School district size	2	Occupation variation	1
		Percent married	1

This dimension is made up essentially of available tax wealth and willingness to spend money for schools with scattered other factors occasionally correlated.

The other dimensions in the analyses are much more diffuse and inconsistent, probably relating more to the specific type of school unit used in the analysis than to any overriding factors. Possibly also, some of them are too unstable to be usable, especially when their communality score is very low.

It is interesting to compare the basic dimensions of the objective analysis, Social status and Land wealth, with the two used by the expert judges, Demographic status, and Educational Quality Requirement. Although certain relations between the two sets appear quite clear, it will be better to delay judgment about their similarity at this point until the final classification is made. Then the consequences of rating according to these two sets may be assessed more directly.

This discussion of the common factors running through the seven analyses should not obscure the fact that there were several interesting differences among them. A more detailed discussion of each analysis is presented in Appendix C.

Continuing the results of the analysis using the Unified Districts as the model, Table 18 presents the results of the Object analysis, where districts are grouped according to their similar patterns of scores on the dimensions generated in the Variable analysis. The term used in key cluster analysis for the classes emerging from the object analysis is District Cluster. A more appropriate term for the present purpose is District type. This term will be used henceforth with the understanding that it is the name for a District cluster in the statistical sense.

Table 18

Unified districts: profiles of variable

dimension scores for each district type

	Variables	Deciles				
Dimension		District Type 1	District Type 2	District Type 3	District Type 4	District Type 5
1	Inc	5	9	5	1	2
	Educ	6	7	4	2	1
	VOcc	3	2	4	5	9
	Size	8	5	7	0	3
	Mean score	5.5	5.8	5.0	2.0	3.8
2	TWlth	7	4	2	8	3
	Xpnd	7	5	4	8	0
	Age	7	5	3	8	3
	Enrl	1	5	4	4	7
	Mean score	5.5	4.8	3.3	7.0	3.3
3	Mar	1	7	3	5	5
	Wht	1	7	2	6	5
	Mean score	1.0	7.0	2.5	5.5	5.0
4	Age	7	5	3	8	3
	VInc	6	5	3	6	2
	Mean score	6.5	5.0	3.0	7.0	2.5

The first step in assigning a school district to a district type is to compute its decile scores on each dimension. This profile of scores of the district is then compared to the profile of each district type. The district is assigned to the type it best fits.

For practical purposes, it is not necessary to compute the mean decile scores separately for each type and then find the average. The same result is achieved by comparing the decile scores of a district on each variable with the scores of each district cluster and choosing the one best fit, providing two modifications of this simple procedure are made: a) some variables are not counted since they do not fall into any type (e.g., mobility, occupation level, for the unified district analysis), b) some variables are counted more than once since they appear in more than one variable dimension (e.g., median age -- appears on dimensions 2 and 4 -- in unified district analysis). Table 19 presents the profiles of each district type.

Table 19

Unified districts: Object analysis

Profile of district types

District Clusters	Enrl	Educ	Mob	Inc	VInc	Occ	VOcc	Age	Mar	Wht	Size	Wlth	Xpnd
1	1	6	X	5	6	X	3	7	1	1	8	7	7
2	5	7	X	9	5	X	2	5	7	7	5	4	5
3	4	4	X	5	3	X	4	3	3	2	7	2	4
4	4	2	X	1	6	X	5	8	5	6	0	8	8
5	7	1	X	2	2	X	9	3	5	5	3	3	0

Entries are decile scores, X means variable is not used for classification in this analysis.

The mean distance for each district from the ideal type profiles is then computed and the district placed in the type it most closely approximates. Table 20 shows this computation for the best definers of each cluster.

Table 20

Unified and union high school districts: District type profiles for best definers of each district type

District Type 1

District	Distances from profiles of cluster: 1	2	3	4	5
Acalanes	0.8	2.9	4.2	-	5.5
Temple C.	0.9	2.8	3.4	3.3	3.3
Culver C.	0.9	2.6	2.9	2.5	3.2
South Bay	0.9	2.5	4.0	-	5.0
Covina V.	1.2	2.8	4.9	4.6	3.3

District Type 2

District	Distances from profiles of cluster: 1	2	3	4	5
Vallejo	2.4	1.0	4.2	3.1	2.4
Stockton	3.4	1.5	3.9	2.6	2.7
San Diego	2.7	1.2	4.2	2.0	3.4
Grant	3.6	2.1	4.3	-	3.5
Lincoln	2.8	1.5	2.3	-	3.4

District Type 3

District	Distances from profiles of cluster: 1	2	3	4	5
King City	3.8	2.5	0.6	-	3.1
Oro Madre	2.9	3.8	0.9	3.2	3.0
Middletown	3.8	4.5	1.0	3.7	3.7
Calistoga	3.5	3.5	1.2	3.5	3.6
Gustine	3.5	3.2	1.3	-	3.4

District Type 4

District	Distances from profile of cluster: 1	2	3	4	5
Oakland	3.0	2.3	3.0	0.8	4.3
San Francisco	3.5	2.6	3.3	1.0	4.8
Pasadena	3.1	3.2	3.7	1.1	5.5
Santa Monica	3.2	2.9	3.0	1.2	4.9
Los Angeles	3.2	2.3	3.5	1.2	4.3

District Type 5

District	Distances from profiles of cluster: 1	2	3	4	5
Delano	5.6	3.8	3.1	-	0.8
Fowler	5.3	3.5	2.7	-	0.8
Folsom	3.5	2.7	3.4	4.8	0.8
Corona	2.8	2.7	3.3	4.6	0.9
Clovis	3.5	2.5	4.0	4.8	0.9

The precision with which the type is defined may be estimated with two measures. The mean distance score of all five districts from the district type to which they belong indicates how closely they fit the district type -- a lower score means a closer fit.

The uniqueness with which the defining districts fit their district type is measured by the difference between how well they fit their district type, and how well they fit the second closest district type. Table 21 presents these data.

Table 21

Measures of precision of district types

District	Mean best fit	Mean difference
1	0.94	1.76
2	1.46	1.26
3	1.00	2.16
4	1.06	1.78
5	0.84	1.90

These figures indicate that all district types are about equally well defined except cluster two which is considerably vaguer. The districts in Type 2 do not fit as well into the type, and they fit closer to some other type.

It is now possible to compare the results of this analysis with that of the ratings of the expert judges. Table 22 gives the strata assigned by judges to the five best definers of each type, and the mean strata rating for each district type.

Table 22

Unified and union high school districts: experts' ratings of five best definers of objective district types

Objective District Type	District	Judges' Stratum	Objective District Type	District	Judges' Stratum
1	Acalanes	4	4	Oakland	1
	Temple City	11		San Francisco	1
	Culver City	11		Pasadena	2
	South Bay	6		Santa Monica	2
	Covina Valley	9		Los Angeles	1
	Mean =	8.2		Mean =	1.4
2	Vallejo	3	5	Delano	13
	Stockton	2		Fowler	16
	San Diego	1		Folsom	13
	Grant	5		Corona	14
	Lincoln	7		Clovis	13
	Mean =	3.6		Mean =	13.8
3	King City	16			
	Oro Madre	18			
	Middletown	19			
	Calistoga	19			
	Gustine	18			
	Mean =	18.0			

Observation of the district types suggests a rough demographic characterization. Type 4 represents mainly the metropolitan, or large suburban districts, while cluster 1 consists primarily of smaller suburban districts. Type 3 comprises very small communities, and type 2 is made up mainly of population centers somewhat removed from metropolitan areas (except San Diego). Type 5 has in it moderate size districts harder to characterize.

The five district types represent very different points on the expert judges ratings. The average strata scores of defining districts for each type make a progression along the judges strata (It should be kept in mind that the judges' nineteen strata only approximate a continuum but viewing them as such is a sufficient approximation for comparison to the objective district types.): 1.4, 3.6, 8.2, 13.8, 18.0. Types 3, 4, and 5 are very homogeneous with respect to strata, and types 1 and 2 are almost as good. The district types seem to have selected out various subgroups of strata along the range of the nineteen strata defined by the judges. There can be little doubt that the objective district type represent educationally significant divisions.

Final classification

The results presented appear to justify the use of the objective method as the basis for classifying districts. The similarity of the cluster analysis method and the expert judges' ratings is very close. Checking personally with some of the judges about the objective classification reinforced the impression of this similarity. Therefore, for the reasons discussed earlier, the Object analysis was used in this study for district and school classification.

One further refinement was made before the method of classification was complete. Classifying a district by placing it in the district type it best fit, is a rather gross procedure, since some districts are much better fits than others. For example, in the unified district analysis consider districts Culver City, San Diego, Sierra, and Coronado. Computation following the classification procedure revealed that Culver City fits district type 1 very well (.09 mean difference from cluster 1 profile) and fits no other type well (2.5, 2.6, 2.9, 3.2). San Diego fits type 2 quite well (1.2), but fits district type 4 almost as well (2.0). Sierra doesn't fit any type very well, but it clearly fits better into type 3 (2.0) than in the others (3.3, 3.7, 4.2). And Coronado doesn't fit any type well, and fits two clusters (1 and 2) almost equally well (2.9, 3.1, 3.4, 4.7, 4.8). Thus a combination of how closely a district fits its closest district type, and how uniquely it fits that type compared to how well it fits the other types provides a second method of classifying the districts.

Examination of the distribution of scores led to the following definitions of goodness of fit for unified districts: "fits closest type well" is defined as a mean cluster decile score of 1.2 or below. Any score of 1.3 or above is considered "not close". "Unique fit" is defined as a difference between the mean score on the first and second best fitting clusters of 1.1 or above. A score of 1.0 or below is considered "not unique".

A second code digit is added to the assigned district type to reflect this goodness of fit. This digit is derived as follows:

Code	Fits District Type	Unique Fit
.1	Close	Unique
.2	Close	Not unique
.3	Not close	Unique
.4	Not close	Not unique

Thus Culver City is assigned a 11 classification, San Diego is a 22, Sierra is a 33, and Coronado is a 54.

To make clear the procedure for classification, a hypothetical district will be assigned values and taken through the classification procedure.

Assume the hypothetical entity, say Xanadu, is a unified district with the following values derived from the census:

1. School enrollment ratio	19.7
2. Education	11.9
3. Geographical mobility	47.1
4. Personal income	6501
5. Income variation	4
6. Occupation level	3.61
7. Occupation variation	3
8. Median age	37.9
9. Percent married	74.3
10. Percent white	99.1
11. School district size	712
12. Tax wealth	51,178
13. School expenditures	54,733

1. The first step is to convert these to deciles by the use of Table 15. The decile scores are respectively: 3, 5, 8, 5, 2, 4, 2, 8, 9, 7, 4, 7, 7.

2. These deciles are next compared with the profiles of the unified district types given in Table 19, making certain that mobility and occupation are omitted, and age is counted twice, as indicated by the type composition. This comparison is as follows:

	Enrl	Educ	Mob	Inc	VInc	Occ	VOcc	Age	Mar	Wht	Size	Wlth	Xpnd
XANADU	3	5	8	5	2	4	2	8	9	7	4	7	7
District Type													
1	1	6	X	5	6	X	3	7	1	1	8	7	7
2	5	7	X	9	5	X	2	5	7	7	5	4	5
3	4	4	X	5	3	X	4	3	3	2	7	2	4
4	4	2	X	1	6	X	5	8	5	6	0	8	8
5	7	1	X	2	2	X	9	3	5	5	3	3	0

The mean profile differences of Xanadu from each district cluster (adding the age difference twice) are:

From District
Type:

1 2+1+0+4+1+1(+1)+8+6+4+0+0 = 28(÷12) = 2.3

2 2+2+4+3+0+3(+3)+2+0+1+3+2 = 25(÷12) = 2.1

3 1+1+0+1+2+5(+5)+6+5+3+5+3 = 37(÷12) = 3.1

4 1+3+4+4+3+0(+0)+4+1+4+1+1 = 26(÷12) = 2.2

5 4+4+3+0+7+5(+5)+4+2+1+4+7 = 46(÷12) = 3.8

Thus Xanadu fits best -- but not well in District Type 2 and not uniquely, since it fits almost as well in type 4. Hence it would be designated a 24 district.

Table 23 lists the classification given by this method to all the unified and high school districts in the sample.

Table 23

Unified and union high school districts: final classification

District Type Designation	1		2		3
11	Covina Valley	21	Vallejo	31	Oro Madre
11	Culver City	22	San Diego	31	Middletown
11	Temple City	22	Lassen	31	Calistoga
11	Acalanes	22	Lincoln	31	Upper Lake
11	Alhambra	23	Stockton	31	Gustine
11	South Bay	23	Grant	31	King City
11	Garden Grove	24	Bellflower	31	Shandon
11	Los Gatos	24	Chino	32	(none)
12	Chico	24	San Jose	33	Princeton
13	(none)	24	Eureka	33	Sierra
14	San Leandro	24	Brawley	34	Palm Springs
14	Inglewood	24	Nevada	34	Mono
14	Torrance	24	Tustin	34	Salinas
14	Ramona	24	Placer	34	Half Moon Bay
14	S. San Francisco	24	San Bernadino	34	Marysville
14	Colton	24	Turlock		
14	Santa Barbara				

	4		5
41	Oakland	51	Clovis
41	Los Angeles	51	Hilmar
41	Pasadena	51	Corona
41	Santa Monica	51	Folsom
41	San Francisco	51	Fowler
42	(none)	51	Delano
43	(none)	51	Madera
44	Glendale	51	Gonzales
44	Long Beach	51	Fremont
		51	Orosi
		52	(none)
		53	(none)
		54	Beaumont
		54	Palo Verde
		54	Coronado
		54	Templeton
		54	Carpinteria
		54	Washington
		54	Monterey
		54	Live Oak
		54	Porterville

District Participation

In all, seventy-two unified and union high schools were invited to participate and fifty-one, or seventy-one percent, responded with at least the superintendent or a board member filling out the questionnaire. Since an acceptance entailed filling out a two-hour questionnaire by all board members, the superintendent, his staff, some principals, all teachers, and parents, accepting an invitation to participate represented a tremendous investment in time and energy by a district. The seventy-one percent then represents a remarkable achievement and speaks in a bold voice for the spirit of cooperation of the large majority of school districts in California, and of the members of the universities and educational organizations represented on the California Commission on Public School Administration (see chapter on design).

From the standpoint of sampling, the results are reasonably satisfactory. The rule of thumb use by many sampling statisticians (Madow, personal communication) is that an eighty-five percent sample is ideal, a sixty percent sample is unsatisfactory, and between these limits it is difficult to judge.

Within the school districts accepting the percentage of every category of respondent was very high (above 90%) except for school board members (about 50%) and of course parents, who weren't actually sampled.

The sample selected originally was deliberately overchosen, that is, more were chosen than were needed for the sample, specifically because it was feared that there would be many refusals. Whether this overchoice improves the sample over the smaller number that could have been selected depends upon whether or not there were systematic biases in the type of districts which accepted. Table 24 lists the acceptances by strata and by district type.

Table 24

Unified and union high school districts: acceptances by strata and by district type

STRATA				DISTRICT TYPE				
Stratum	Number In Stratum	Number Accepted	Percent Accept	District Type	Mean Stratum	Number In Type	Number Accepted	Percent Accept
1	5	2	40					
2	3	1	33					
3	3	3	100					
4	3	2	67					
1-4	14	8	57	4	1.4	7	3	43
5	4	2	50					
6	2	1	50					
7	3	2	67					
8	5	4	80					
5-8	14	9	64	2	3.6	16	14	88
9	3	2	67					
10	4	2	50					
11	3	2	67					
12	1	1	100					
13	5	5	100					
9-13	16	12	75	1	8.2	16	10	63
14	3	3	100					
15	3	2	67					
16	6	4	67					
14-16	12	9	75	5	13.8	19	12	63
17	5	5	100					
18	5	3	60					
19	6	5	83					
17-19	16	13	81	3	18.0	14	12	86
TOTAL	72	51	71			72	51	71

This analysis reveals a similar distribution of acceptances throughout all strata and all district types except for the very large districts (low strata numbers, and district type 4). Clearly the sample was weak in the large metropolitan areas. This is partly due to the fact that there are far fewer metropolises than small districts and one or two refusals at this level decreases the percent accepting drastically. Anticipating this possibility, all five large city districts in stratum one were invited to participate rather than only a sample, and two of the five accepted. Thus the number of large districts in the sample is proportionate to the number of districts in the sample from the other strata, but the representativeness is suspect. It is possible statistically, and probable impressionistically, that the districts refusing to participate are qualitatively different in the type of administrative situation presented to the administrator, from those which accepted the invitation to participate.

The pattern of acceptance for the remaining districts is roughly the same with a slight rise in percent accepting as the districts approach the higher numbered strata -- the smaller districts.

In summary, the sample, for this type of study, seems to be a very satisfactory one, and there can be considerable confidence in the fact that results of this study are applicable to all of California. The only exceptions to this statement are the very large metropolitan districts which are too few to be well sampled, and which are not adequately represented in this sample. Perhaps they must be studied separately since they are very complex and unique, and many of these districts actually contain several district-equivalents within them.

Summary

The task of selecting a representative sample of California school districts, and the task of classifying districts into types that related to administrative performance present very similar problems. Both require a grouping of school districts into types distinguished by the different situations they presented to school administrators and therefore the different administrative performances expected within each type of district.

Two methods of classification were used and integrated, 1) the experiential method drawing on the knowledge of California schools of expert judges, and 2) the objective method using a statistical treatment (key cluster analysis) of a variety of carefully selected objective measures of community characteristics taken from the 1960 U.S. Census and the Annual Financial Report of the California State Department of Education.

Sampling the school districts of California was accomplished by selecting a disproportionate random sample from each of the nineteen strata of unified and high school districts developed by the expert judges. A similar method was used to select elementary school districts, and attendance areas for elementary, junior high, and high schools. The sample chosen approximated very closely the total population of school districts in California on the three measures used to test the goodness of fit of the sample, 1) school district size, 2) tax wealth, and 3) school expenditures. The stratification reduced the variation on these measures by about 50%, meaning that the results achieved with this sample are equivalent to those that would be obtained with a random sample twice as large.

The objective method of classifying districts using cluster analysis produced district types very similar to those produced by the expert judges. This objective method was therefore used to classify districts into types homogeneous with respect to the social situations afforded school administrators. The two major variables used for this classification were land wealth and social status of community members. From these variables three to five types were generated, depending on the type of district or level of school, and every district and school was assigned to one type. A method was presented for classifying any school district into a district type. This typology was used for the present study.

Seventy-one percent of all the unified and union high school districts invited to participate in the study accepted the invitation (fifty-one out of seventy-two). Within those accepting virtually all of the administrators and teachers, and about half of the school board members actually filled out the two-hour questionnaire. Analysis of the pattern of acceptance revealed that the sample was very satisfactory as representing all of California school districts except for the large metropolitan area districts. Only two out of the five districts in stratum one participated so that the application of the present results to this type of district is not justified.

Results

by

William C. Schutz

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The major purpose of this study is to interrelate three sets of variables -- individual traits, social settings, and administrator effectiveness ratings, in order to acquire data to fit the basic formula of the investigation:

Administrator A is rated R on effectiveness criterion C in situation S.

Summary of Variables

The theoretical and empirical analyses of the experimental variables resulted in the following measures:

1. Effectiveness criteria

a. Personal traits, those qualities that are primarily characteristic of the administrator's personal performance, including his problem solving ability, ability to maintain the school plant, and his educational leadership.

b. Interpersonal traits, the amount of satisfaction with the interpersonal situation that an administrator engenders in his teachers, staff and/or board members. The measure of this factor is the degree to which the administrator's raters feel that he finds them important,competent, and likeable.

c. Organizational traits, those relevant to his ability to integrate and coordinate the various elements of the school situation into an efficient operation, including organizational efficiency, ability to use human resources well, and skill in communication.

d. Technical knowledge, a measure of an administrator's familiarity with the content of educational administration including school law, buildings, finance, personnel policies, research results, etc.

e. Overall rating, a global assessment of the administrator's effectiveness given by his interactors. It is the average of all the subjective ratings available from people in close contact with the administrator.

2. Individual traits

Following are the individual characteristics measured for every administrator participating in the study:

Number	Name (content and positive end of scale)
1.	I am dissatisfied with the way my father related to me.
2.	I am dissatisfied with the way my mother related to me.
3.	I want people to notice, respect, and like me.
4.	I am interested in, respect, and like people.
5.	I prefer conformity and conventionality.
6.	People in the school situation should have close and personal relations with each other.

Number	Name
7.	Education is of importance in developing the whole child.
8.	I am conservative.
9.	I handle anxiety by attributing my unacceptable feelings and motives to others.
10.	I handle anxiety by denying the problem or its importance.
11.	I am an established citizen.
12.	I come from a large family.
13.	I have a high status father.
14.	I am male.
15.	I am married.
16.	I prefer a high status religion.
17.	I am intelligent.
18.	I was a later born child in my family.
19.	The teacher should regulate classroom behavior.
20.	When I was a child, I wanted my father to allow me more freedom.
21.	My father wanted my to be a better person.
22.	I have held my position for many years.
23.	I have been a full time teacher for many years.
24.	My teaching field was like the sciences and mathematics.

3. Situational variables

Five types of school districts emerged from the analysis of census and school data, and from expert judgments of the characteristics of California school districts. A rough characterization of these district types follows.

Type 1. Small, suburban districts, primarily located around Los Angeles and San Francisco (e.g., Culver City. Acalanes)

Type 2. Population centers somewhat removed from metropolitan areas (e.g., Stockton, Vallejo)

Type 3. Very small communities (e.g., Calistoga, Middletown)

Type 4. Metropolitan and large suburban areas (e.g., San Francisco, Pasadena)

Type 5. Moderate size districts not near metropolitan area (e.g., Delano, Folsom)

Population Tested

The final number of administrators with usable data by district types is given in Table 1.

Table 1

Final population of administrators

District Type	Superintendents	Principals
1	17	35
2	29	61
3	20	36
4	3	4
5	8	11
	77	147

Total administrators = 224

The number of superintendents in each district was too small to do a regression analysis except for district type 2. Therefore, for analytic purposes, all superintendents were treated as one group and a regression analysis done on the total.

The size of the principal groups was sufficient for regressions on district types 1, 2, and 3, allowing for a test of the hypothesis that prediction of administrative success is improved by controlling for district type. This hypothesis may be checked further by the use of the one district type with a sufficient number of superintendents, type 2.

Individual Predictors of Criteria

The first stage of prediction answers the question, "How well are the criteria of effectiveness predicted by individual predictor variables?"

The effectiveness criteria were derived in three ways:

1. Ratings for principals derived from teachers' evaluations,
2. Ratings for some superintendents derived from school board members' evaluations,
3. Ratings for some superintendents derived from evaluations made by their staff members.

Each of these methods of obtaining ratings was analyzed separately for each of the effectiveness criteria. The most direct measure of the predictability of those criteria is the partial correlation of each predictor variable with each criterion, that is, the correlation of each variable holding all other predictor variables constant. All partial correlations above .20 are listed in Table 2.

Table 2

Partial correlations of highest predictor variables
with criteria, for principals rated by teachers (N = 147)

Criterion 1. Personal abilities (factor)

Best Predictors	Partial correlation
People in the school situation should have close and personal relations with each other.	-.20
I have been a full time teacher for many years.	-.20

Criterion 2. Interpersonal success (factor)

Best predictors	Partial correlation
I am married.	-.23
I have been a full time teacher for many years.	-.20

Criterion 3. Organizational traits (factor)

Best predictors	Partial correlation
I have been a full time teacher for many years.	-.20

Criterion 4. Technical Knowledge

Best Predictor	Partial correlation
I am intelligent.	.33

Criterion 5. Overall Rating

Best Predictor	Partial correlation
I was a later born child in my family.	-.22
People in the school situation should have close and personal relations with each other.	-.20

These results indicate the relative inability of the individual predictor variables to predict the various criteria of administrative effectiveness for principals. Only nine correlations out of a possible 144 (6%) were above .20, and of those nine, one predictor accounted for four of the correlations.

That particular variable, years of full time teaching, is of interest because it is negatively related to administrative success. This finding, supported strongly by subsequent analyses, is directly contrary to the legal requirement in many states which is based on the assumption that administrators require considerable teaching experience. In California, for example, five years of full time teaching is a prerequisite for an administrative credential. These results would indicate that this requirement is not only unjustified but may act against selecting good administrators.

The analysis of predictability for superintendents required combining all superintendents whether rated by board members, or by staff members, or both, because of the relatively small numbers involved. Table 3 presents the best predictors of superintendents' preformance for each criterion (individual criteria rather than criterion factors were used for superintendents because the numbers were too small to factor analyze the criteria).

Table 3

Partial correlations of highest predictor variables with criteria, for all superintendents (N = 77)

Criterion	Predictor	Partial correlation
1. Problem solving ability	—	—
2. Technical administration	I am dissatisfied with the way my father related to me.	-.20
3. Leadership	I want people to notice, respect, and like me.	.20
4. Organizational ability	I am conservative.	-.20
5. Use of human resources	I want people to notice, respect, and like me.	.24
6. Communication	I am conservative.	-.24
	I come from a large family.	.21
7. Board relations	I am an established citizen.	.28
	I was a later born child in my family.	-.27
	I am dissatisfied with the way my father related to me.	-.23
	I want people to notice, respect, and like me.	.23
	I am conservative.	-.21
8. Technical knowledge	I am intelligent.	.40
	I am male.	-.34
	I am married.	-.27
	I am dissatisfied with the way my father related to me.	.25
	I am interested in, respect, and like people.	-.25
	When I was a child, I wanted my father to allow me more freedom.	-.25
	I am an established citizen.	-.20

Table 3 continued

Criterion	Predictor	Partial Correlation
9. Overall Rating	I am conservative.	-.33
	I am intelligent.	-.28
	I come from a large family.	.26
	I was a later born child in my family.	-.26
	I am interested in, respect, and like people.	-.23

Here again individual prediction is poor, only twenty-three out of 216 correlations (11%) exceeded .20. The best predictors of administrator success as rated by board members and/or by staff members were:

The administrator is not conservative.
The administrator wants people to notice, respect, and think well of him.
The administrator is an early born child in a large family.

The first two factors may be interpreted as a liberal attitude toward people and a sensitivity to their reactions. The latter trait seems reasonable in that large families require administration and organization in order to get their work done, and the older children -- that is the earlier born -- are generally given major responsibility for organizing the other children to accomplish the necessary work. Thus these children have had much "administrative" experience by the time they reach adulthood.

Breaking down superintendents into those rated by board and by staff reveals many interesting differences. Table 4 presents these correlations.

Table 4

Partial correlations of highest predictor variables with criteria,

for superintendents rated by school board members (N = 71)

Criterion	Predictor	Partial Correlation
1. Technical knowledge	I am intelligent.	.42
	I am male.	-.37
	I am married.	-.30
	I think well of others.	-.30
	I prefer a high status religion.	.26
	I am an established citizen.	-.23
	The teacher should regulate classroom behavior.	.22
	When I was a child, I wanted my father to allow me more freedom.	-.22
	My father wanted me to be a better person.	.21
2. Board mean overall rating	I am conservative.	-.31

Table 4 continued

Criterion	Predictor	Partial Correlation
2. Board mean overall rating (cont.)	I am intelligent.	-.31
	I come from a large family.	.28
	I was a later born child in my family.	-.27
	I want people to notice, respect, and like me.	.26
	I am dissatisfied with the way my father related to me.	-.23
3. Uses human resources effectively	I want people to notice, respect, and like me.	.42
	I come from a large family.	.23
	I was a later born child in my family.	-.23
	I have held my position for many years.	-.22
	I handle anxiety by attributing my unacceptable feelings and motives to others.	.21
4. Problem solving ability	I am dissatisfied with the way my mother related to me.	-.26
	I come from a large family.	.25
	I prefer conformity and conventionality.	.23
5. Communication ability	I was a later born child in my family.	-.30
	My father wanted me to be a better person.	-.22
	I want people to notice, respect, and like me.	.21
	I come from a large family.	.21
6. Educational leadership	I want people to notice, respect, and like me.	.29
	My father wanted me to be a better person.	-.21
	I have been a full time teacher for many years.	-.21
7. Board relations	I was a later born child in my family.	-.32
	I am married.	.24
	I come from a large family.	.24
	I want people to notice, respect, and like me.	.22
	I am an established citizen.	.20
8. Administrative Efficiency	I prefer conformity and conventionality.	.22
	I was a later born child in my family.	-.21
9. Organization	People in the school situation should have close and personal relations with each other.	-.26
	I have held my position for many years.	-.22

Table 4 continued

Criterion	Predictor	Partial correlation
10. The staff feels that they are important.	I am married.	-.35
	I am dissatisfied with the way my father related to me.	.30
	My teaching field was like the sciences and mathematics.	-.27
	People in the school situation should have close and personal relations with each other.	.26
	I handle anxiety by denying the problem or its importance.	-.26
	I am intelligent.	.24
11. The staff feels they are thought competent.	I am married.	-.33
	People in the school situation should have close and personal relations with each other.	.29
	I am dissatisfied with the way my father related to me.	.27
	My father wanted me to be a better person.	.26
	I prefer conformity and conventionality.	-.24
	I handle anxiety by denying the problem or its importance.	-.22
	My teaching field was like the sciences and mathematics.	-.20
12. The staff feels they are well liked.	I am dissatisfied with the way my father related to me.	.42
	I have a high status father.	-.20

These results are somewhat higher than the prediction of principal effectiveness. Three correlations go as high as .42, and of the 288 possible correlations fifty-four (19%) are above .20. Of the fifty-four correlations no one predictor stands out as clearly better overall. The most frequent predictor variables are:

> The administrator wants people to notice, respect, and think well of him, and
> The administrator comes from a large family.

In Table 5 the correlations for staff-rated superintendents are given.

Table 5

Partial correlations of highest predictor variables with criterion variables for superintendents rated by staff (N = 46)

Criterion	Predictor	Partial Correlation
1. Technical knowledge	I am dissatisfied with the way my father related to me.	.41

Table 5 continued

Criterion	Predictor	Partial Correlation
1. Technical knowledge (cont.)	When I was a child, I wanted my father to allow me more freedom.	-.40
	My teaching field was like the sciences and mathematics.	.40
	I am interested in, respect, and like others.	-.38
	I am intelligent.	.36
	I was a later born child in my family.	-.36
	Education is of importance in developing the whole child.	.34
	I want people to notice, respect, and like me.	-.31
	I come from a large family.	.30
	I handle anxiety by denying the problem or its importance.	.28
	I am conservative.	-.27
	I prefer conformity and conventionality.	-.23
	I am married.	-.23
	I handle anxiety by attributing my unacceptable feelings and motives to others.	.22
	I am an established citizen.	-.22
2. Overall mean rating	I am interested in, respect, and like people.	-.51
	I am male.	.48
	I prefer a high status religion.	-.47
	I am conservative.	-.45
	Education is of importance in developing the whole child.	.42
	I prefer conformity and conventionality.	-.39
	My teaching field was like the sciences and mathematics.	.30
	I was a later born child in my family.	-.27
	I have a high status father.	.23
	I come from a large family.	.20
3. Use of human resources	I am conservative.	-.49
	I am an established citizen.	.42
	I have been a full time teacher for many years.	-.37
	I want people to notice, respect, and like me.	.33
	The teacher should regulate classroom behavior.	.30
	My teaching field was like the sciences and mathematics.	-.25
	I have held my position for many years.	-.23

Table 5. continued

Criterion	Predictor	Partial Correlation
4. Problem solving	I am conservative.	-.46
	I want people to notice, respect and like me.	.34
	I have been a full time teacher for many years.	-.32
	I am an established citizen.	.26
	My teaching field was like the sciences and mathematics.	-.25
	The teacher should regulate classroom behavior.	.23
	I am intelligent.	-.22
	I come from a large family.	.21
5. Communication	I am conservative.	-.58
	I come from a large family.	.42
	I am male.	.33
	The teacher should regulate classroom behavior.	.31
	I prefer conformity and conventionality.	-.30
	I have a high status father.	.28
	People in the school situation should have close and personal relations with each other.	-.28
	Education is of importance in developing the whole child.	.26
	I am married.	.26
	I am dissatisfied with the way my mother related to me.	-.26
6. Leadership	I am male.	.56
	I prefer a high status religion.	-.50
	I prefer conformity and conventionality.	-.47
	The teacher should regulate classroom behavior.	.41
	I am conservative.	-.40
	I want people to notice, respect and like me.	.34
	I am dissatisfied with the way my father related to me.	.30
	My teaching field was like the sciences and mathematics.	.26
7. Board relations	I am an established citizen.	.73
	I prefer conformity and conventionality.	-.64
	I am conservative.	-.63
	I want people to notice, respect and like me.	.60
	The teacher should regulate classroom behavior.	.58
	I was a later born child in my family.	-.45
	I am male.	.38

Table 5. continued

Criterion	Predictor	Partial Correlation
7. Board Relations (cont.)	I am dissatisfied with the way my father related to me.	-.37
	I handle anxiety by denying the problem or its importance.	.36
	I am dissatisfied with the way my mother related to me.	.33
	I have held my position for many years.	-.29
	My teaching field was like the sciences and mathematics.	-.24
	Education is of importance in developing the whole child.	-.22
8. Administrative efficiency	I am conservative.	-.56
	I am an established citizen.	.32
	I prefer a high status religion.	-.27
	My teaching field was like the sciences and mathematics.	-.26
	The teacher should regulate classroom behavior.	.24
	I have been a full time teacher for many years.	-.24
	I want people to notice, respect and like me.	.23
	I am dissatisfied with the way my mother related to me.	-.23
	People in the school situation should have close and personal relations with each other.	-.23
	I handle anxiety by attributing my unacceptable feelings and motives to others.	.21
	I have a high status father.	.20
9. Organisation	I am conservative.	-.46
	I prefer conformity and conventionality.	-.36
	I am an established citizen.	.35
	I am male.	.35
	I am dissatisfied with the way my father related to me.	.34
	I have been a full time teacher for many years.	-.28
	I prefer a high status religion.	-.25
	I handle anxiety by attributing my unacceptable feelings and motives to others.	.24
	The teacher should regulate classroom behavior.	.24
	I want people to notice, respect and like me.	.23

Here the correlations are still higher than they were for the previous two ratings, reaching a high of .73. Further, 92 out of 216 (43%) of the correlations were above .20. The most highly chosen predictors were:

The administrator is not conservative.
The administrator wants people to notice, respect and like him.
The administrator is not conformist or conventional.
The administrator thinks teachers should regulate classroom behavior.

Two particularly interesting results emerge from these analyses.
a) the increase in predictability of administrative performance from the predictor variables as the ratings go from teachers, to board members, and to staff;
b) the different predictors which "work" for each rating group.

One hypothesis to account for the continuum of predictability of the raters is this: predictability increases a) as the homogeneity of the rating group's concept of an ideal administrator increases, and, b) as the working proximity of the rating group with the administrator increases. It follows from this hypothesis that staff members are more in agreement in what they want from a superintendent, and that they work closer to him so that they can tell better whether or not he has the traits they want; board members are in less agreement about their criteria for a good superintendent and also have less direct contact with him than his staff members and therefore have less opportunity to see if he has the traits they want; and teachers are the most heterogeneous with regard to their requirements for a principal and, especially in large schools, perhaps have less opportunity for close contact with him.

The fact that different predictors are better for predicting what teachers, staff, and board members want from an administrator gives some insight into these relations. The administrator rated high by teachers rathe. surprisingly tends to be someone who did not teach a very long time and who doesn't believe in close, personal relations in the school setting. The administrator rated high by board members is one for whom it is important that people think well of him, and who tends to be a later born child in a large family. Staff members rate high an administrator who is liberal, somewhat non-conformist, feels teachers should regulate classroom activities, and who wants people to think highly of him.

Multiple Predictors of Administrative Success

The second method of predicting administrative success is to weight all the predictor variables in such a way that the weighted total of all the variables yields the maximum correlation with the criterion -- the multiple regression method. This method usually increases the correlation over any single variable

The results of the regression analysis are given in table 6.

Table 6

Multiple regression correlations of predictor variables with criterion variables for superintendents rated by board members (N = 71), superintendents rated by staff (N = 46), and principals rated by teachers (N = 147)

Criteria

	TK	Rtg	Res	Prb	Com	Ldr	Brd	Mnt	Org	Mean
Sup by board	74	60	63	58	59	59	61	49	48	59
	(42)	(31)	(42)	(26)	(30)	(29)	(32)	(22)	(25)	
Sup by staff	77	84	80	77	78	84	92	79	77	81
	(41)	(51)	(49)	(46)	(58)	(56)	(73)	(56)	(46)	

	TK	Rtg	Pers	Org	IP	Task	Mean
Prin by teacher	50 (33)	47 (22)	45 (20)	42 (20)	45 (23)	43 (20)	45

Numbers in parentheses are the highest partial correlations of the criterion with any individual predictors. A comparison of the individual correlations reveals the increment in correlation, or predictive power, of the multiple correlation over the best individual predictor. These increments vary in the board rated superintendents from .21 to .32 with a mean of .28; in the staff rated superintendents from .19 to .36 with a mean of .28; and in the principals from .17 to .25 with a mean of .22. Thus on the average, the multiple correlation improves the predictive power about .26 correlation points, a considerable increment.

There is one reservation in the use of multiple r however. With the large number of predictor variables used it becomes easier to weight them in such a way as to obtain a correlation higher than would be obtained on a fresh sample. For that reason the multiple r may be adjusted to take account of that property. The adjusted r represents an estimate of the lower bound of what the r would be on a new sample. Adjusted r's are given in Table 7.

Table 7

Adjusted Multiple Correlations

Criteria

	TK	Rtg	Res	Prb	Com	Ldr	Brd	Mnt	Org
Sup by board	28	31	44	40	42	40	42	39	31
Sup by staff	36	60	49	36	41	60	83	46	36

	TK	Rtg	Pers	Org	IP	Task
Prin by teachers	21	24	17	17	24	17

It is difficult to interpret these figures. Multiple r's on new populations may of course be even higher than those found on this sample. The adjusted r's provide a statistical caution for generalizing these results.

Thus the use of the multiple r increases prediction considerably over individual predictors. Introducing the social setting will complete the analysis.

Multiple Correlations Considering Types of School Districts

If a given predictor variable is related to good administration in one district type, but negatively related to good administration in a different type of district, the prediction of administrative effectiveness for all districts is made very difficult and should be reflected in a low multiple correlation. However, if the multiple r's are computed within district types they should be much higher since the variable will act the same in every district within each type.

The multiple r's were therefore computed within district types. As mentioned above, the size of the sample allowed this to be done only for principals in district types 1, 2 and 3, and for superintendents in district type 2.

The multiple correlations within district types are presented in Table 8.

Table 8

Multiple correlations of predictor variables with

criterion variables for principals, by district type

		Criteria						
		TK	Rtg	Per	Org	IP	Task	Mean
District Type	1	71	87	95	91	95	93	88
	2	63	57	62	68	48	65	60
	3	94	87	85	91	93	89	90

Again, because of the sample size there is a possibility of spuriously high multiple correlations. The adjusted correlations take account of the samll sample size and represent the lower limit of the correlation if done on a larger sample. The adjusted r's are presented in Table 9.

Table 9

Adjusted multiple correlations for principals by district type

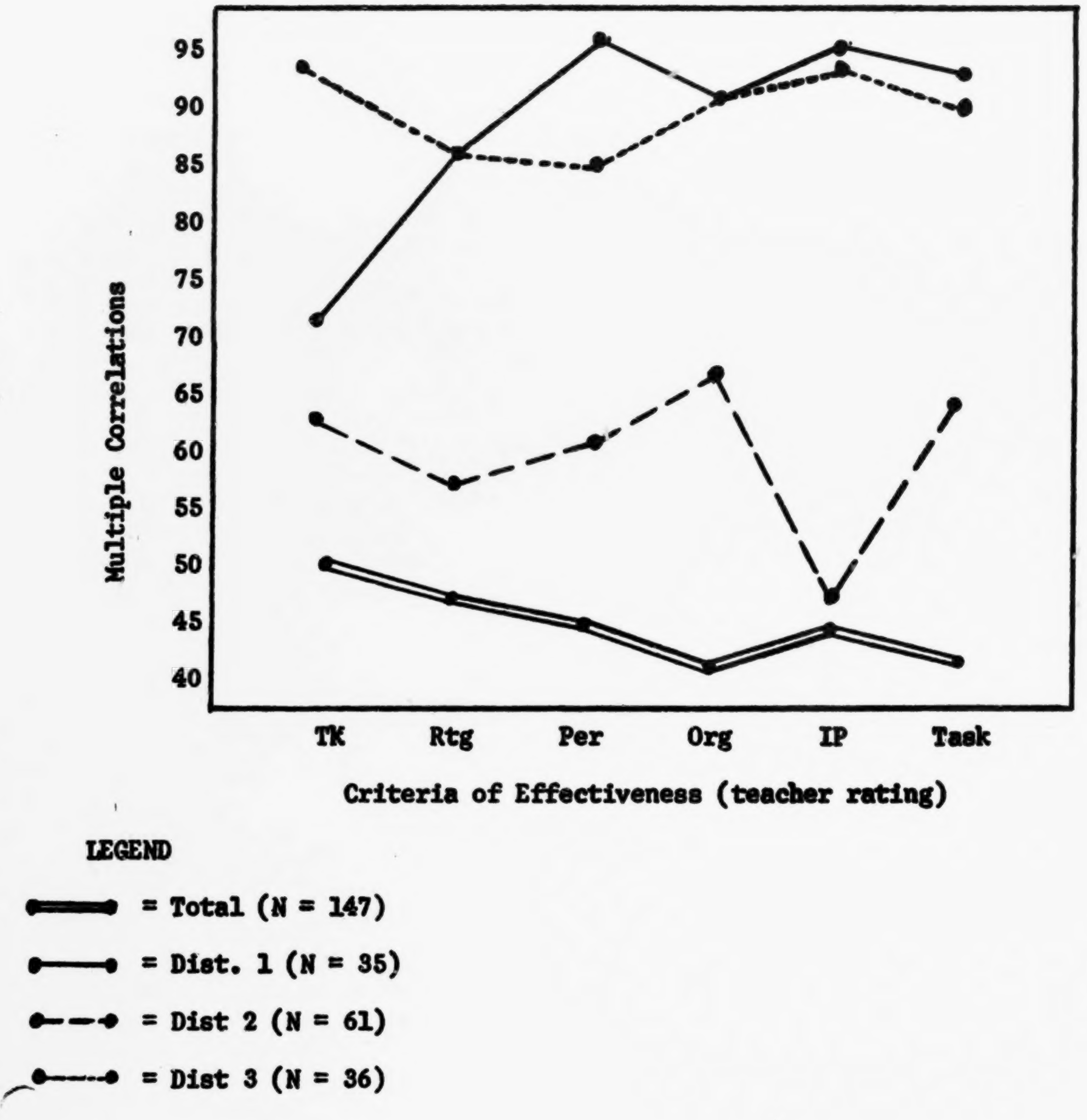
		Criteria					
		TK	Rtg	Per	Org	IP	Task
District Type	1	42	60	57	52	60	54
	2	01	00	00	32	00	40
	3	42	49	67	62	49	65

Thus, even with the adjusted scores districts 1 and 3 are very strong while district 2 is unstable.

Figure 1 presents a graphic representation of the improvement in prediction due to the introduction of district types.

Figure 1

Increment in predictive power (multiple correlation) through introduction of district type for principals (N = 147)



The improvement in predictability is consistent for all districts and all criteria. Table 10 presents the increment in predictability.

Table 10

Increment in predictability of principal

effectiveness through introduction of district types

		Criteria						
		TK	Rtg	Per	Org	IP	Task	Mean Increment
District	1	21	40	50	49	50	50	43
Type	2	13	10	17	26	03	22	15
	3	44	40	40	49	48	46	45
Mean Increment		26	30	36	41	34	39	

Overall Mean Increment = .34

In summary, the average multiple r for all principals taken together is .45. If divided into districts the multiple r becomes for the three district types respectively .88, .60, and .90, an average increment of .34. This is a remarkably large improvement and gives strong support to the hypothesis that different types of districts require different types of administrators.

This result is corroborated by data from the superintendents' ratings. Since the numbers are small the ratings of superintendents made by board members and by staff members were combined. This yielded a total of 77 superintendents rated by a board member and/or a staff member. The regression for all 77 was compared with the breakdown by district type to acquire data comparable to that just presented. Unfortunately only district type 2 had enough cases to make the regression analysis meaningful, but this comparison supported the finding of the principal.

Table 11 presents the multiple correlations and adjusted multiple correlations for district type 2 for superintendents.

Table 11

Multiple correlations and adjusted multiple

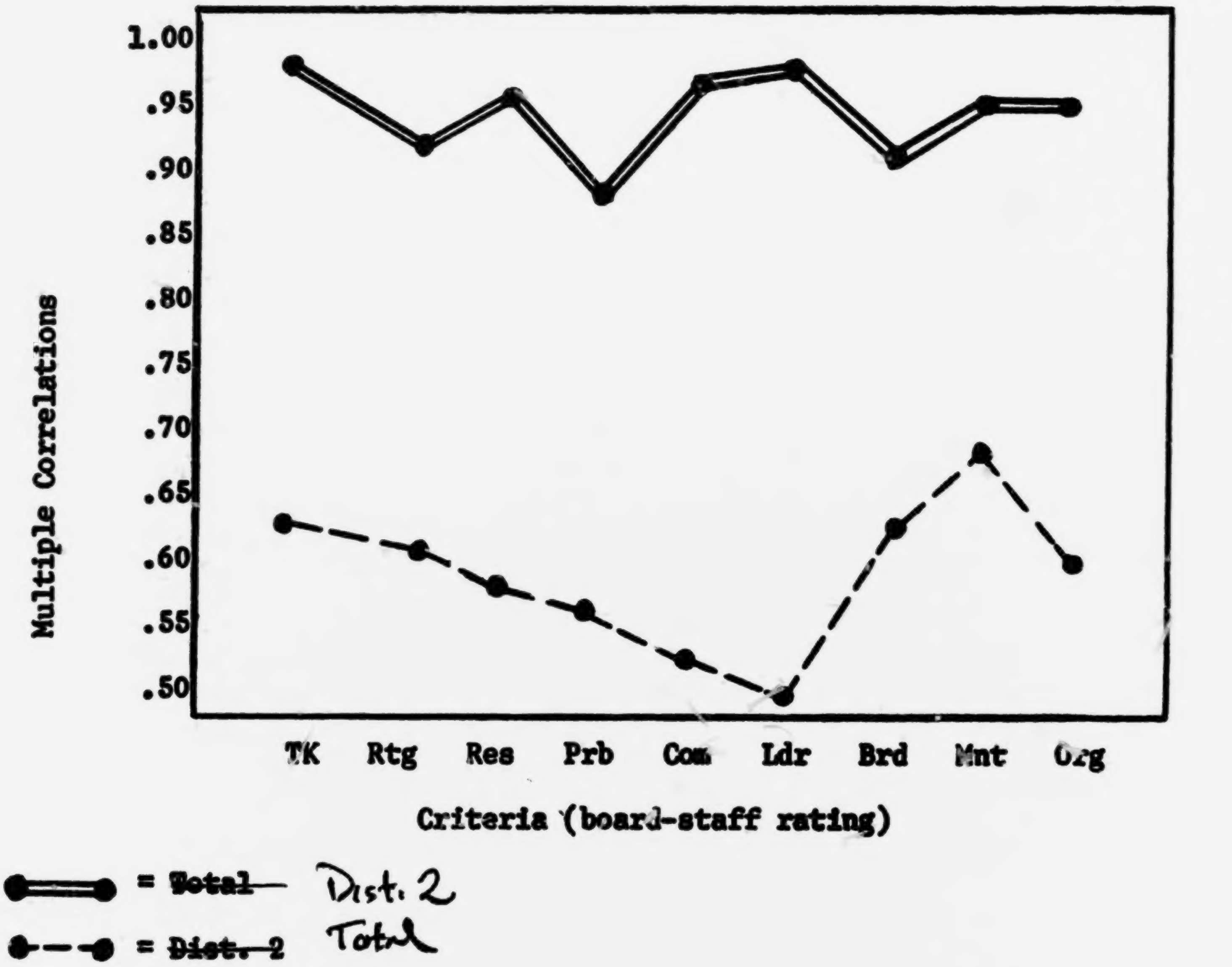
correlations for district type 2 for superintendents

	Criteria									
	Prb	Ldr	Org	Res	Com	Int	Rsp	Lik	Brd	Mean
Multiple R	97	96	98	97	93	91	97	97	88	95
Adjusted R	80	64	82	76	12	00	77	75	00	52

The difference in predictive power is displayed graphically in Figure 2.

Figure 2

Increment in predictive power through introduction of district type for superintendents (N = 77)



The predictive improvement is given in Table 12.

Table 12

Increment in predictability for superintendents due to controlling for district type for district type 2

Criterion	Increment
TK	34
Rtg	32
Res	38
Prb	31
Com	45
Ldr	48
Brd	27
Mnt	28
Org	36
Mean	35

This result (mean increment = .35) is almost identical to the increment in predictability reported for principals (.34).

Thus, a basic hypothesis of this study, that administrators function differently in different types of districts is confirmed. Prediction of administrative success is improved by about .34 if district type is taken into account.

The overall result combining all principals and superintendents together, district types together, and combined criteria, is that administrative success on the whole is predicted by the predictor variables .64. When district types are introduced prediction increases to .85.

The detailed results will now be presented: first an analysis of the specific performance of each predictor variable, then a discussion of the type of administrator successful in each district type.

Discussion of Variables

After the extensive theoretical development of the three sets of variables it is valuable to look back and see the contribution each made to the prediction of administrative effectiveness.

Individual variables

1. LIPHE. The factor analysis reduced the LIPHE scales to two factors, dissatisfaction with mother and dissatisfaction with father. In addition two other LIPHE scales were added to the analysis because of their unique contribution, "When I was a child, I wanted my father to allow me more freedom", and, "When I was a child, my father wanted me to be a better person.

a) An administrator who felt dissatisfied with his early relations with his father tended to give his interactors the impression that he didn't notice, respect or like them. This could certainly be a case of transference, passing on the dissatisfaction felt for his father to his interactors who perceive his feelings accurately.

This result was true for both superintendents and principals, and especially true for superintendents from school districts located in population centers (district type 2).

In this district type the characteristic of satisfaction with the relation with father was a very strong positive factor in administrative success, especially as judged by the criteria of organizational ability, problem solving ability, ability to use human resources, educational leadership, and relations with the school board.

In general, satisfaction with the childhood relation with the father was a strong positive indicator of administrative success especially for superintendents. The trait was also positive for both superintendents and principals for interpersonal effectiveness.

b) Administrators who felt dissatisfied with their early relations with their mother have almost the opposite pattern from those who felt dissatisfied with their father. Superintendents with this trait do quite well in making their subordinates feel accepted, and so do principals in small districts (type 3). Small town principals dissatisfied with their childhood relation with the mother are also rated high overall.

Superintendents who were not satisfied with their relation with their mother in the population center districts (type 2) do extremely well on organizational ability, ability to use human resources, problem solving ability, educational leadership, and relations with board members.

It appears that administrators with a satisfactory relationship with their father but not with their mother tend to make their subordinates feel very significant, competent, and well liked. In addition, if they are superintendents in a population center district they will be very successful by every criterion. Perhaps the mechanism of identification can account for some of these roles. A male who identifies strongly with his male parent and not with his female parent has a tendency to play a male role such as administrator with more ease.

c) An administrator who as a child wanted his father to allow him more freedom was generally unsuccessful as a superintendent in a population center district. However, his subordinates do not feel as unaccepted as do those of an administrator who is dissatisfied in general with his relations to his father.

d) An administrator who felt that his father was generally dissatisfied with him does very well as a principal in a suburban community (district type 1). Here he is rated well overall, and on personal, organizational, and interpersonal factors. However, if he is a superintendent in a population center district he is quite unsuccessful on personal and organizational task factors, and making his staff and board members feel significant and competent.

It may be that a dissatisfied father acts as a motivator to his son. In a suburban area a highly motivated administrator fits into the general suburban conception of a go-getting, ambitious man. But in a population center area this trait may be perceived as pushy and overeager, and be regarded as disharmonious with the values of such a community.

2. FIRO-F. The six FIRO-F scales were reduced to two by the factor analysis. One factor comprised all of the expressed scales for inclusion, control, and affection. The other factor included the wanted scales for the same dimensions.

a) An administrator who wants people to feel he is significant, competent and likeable is successful on organizational factors as a principal in a small district (type 3), and does well as a superintendent in population center districts (type 2). As a small district principal he is especially strong on the use of human resources and educational leadership though undistinguished on interpersonal factors or overall rating. As a population center superintendent he is rated especially high on the use of human resources, and also communication, problem solving ability, organizational competence, and ability to deal with the school board.

b) An administrator who feels that people are important, competent and likeable does poorly as a principal in a suburban district (type 1) especially with regard to his task abilities. As a superintendent this type of person does poorly in general. His overall rating is very low, especially in the judgment of his own staff members. His task ability is low as is his ability to deal effectively with board members.

Suburban sophistication seems to look down on administrators who profess much liking and respect for people generally. Perhaps this attitude comes through as insincere as evidenced by the fact that staff members, the people who know the superintendent best, are especially negative toward administrators manifesting this trait. On the other hand, the desire to be liked seems to be a very attractive trait to people in small communities and population centers. Perhaps it's a homely virtue in keeping with the mores of such communities. Stereotypes of suburbia and small town seem to be supported by the findings so far.

3. COPE. The five measures of preferred defense mechanisms were reduced by the factor analysis to two, denial and projection.

a) An administrator who uses projection as a preferred defense does very badly as a principal in a suburban district. He is rated low overall, on task factors, and on his ability to transmit his feelings of acceptance to his teachers. The same is true but to a lesser degree when such an administrator is a principal in a very small district (type 3) and in a moderate district (type 5).

As a superintendent, this type of person does fairly well in general but very badly in a population center district, particularly as judged by his ability in problem solving, organizing and using human resources.

An administrator who tends to deny anxiety as his method of defense does very well as a small district principal or as the superintendent in a population center district. However, he does poorly as a principal in a population center district on the various criteria of task performance. There are indications that he would do well as a superintendent on the interpersonal qualities.

Projection is often found to be a very hostile defense, in the extreme it becomes paranoia. Cohen (1957), for example, found that two projectors together had the most hostile interaction of any combination of defenders. It appears that the hostility behind the projective defense is sensed by the administrator's interactors and reacted to negatively.

The picture on denial is much more mixed. A denier often gives the appearance of competence since nothing ever seems to ruffle him. But on the other hand he sometimes fails to recognize problems and their importance. Variation in outcome of the use of such a defense leads to a very mixed picture of the relation of the defense to administrative performance.

4. VAL-ED. The factor analysis divided the Val-Ed scales from each other more than it did those of the other tests, and mixed them with scales from other instruments. Four factors emerged that were composed largely of Val-Ed scales.

a) A principal who felt that a school should encourage close, personal relations among administrators, teachers and students does well in a suburban district but very poorly in a small community district. There is a strong tendency for a small district to reject this attitude. It is especially related to the failure of such an administrator to make his teachers confident that he feels they are significant, competent and likeable. This trait is not related to a superintendent's success.

b) A superintendent who feels that education is important in itself and not just as an employment aid, will be exceptionally successful in all phases of administration in a suburban district. However he will not do well in a population center district, although his failure will not be as great as his success in the suburban superintendency.

c) An administrator who conforms to the dominant wishes of those above him does well as a suburban principal but poorly as a superintendent. To a lesser extent he does poorly as a population center principal. His performance as a population center superintendent is mixed. He does badly on problem solving, organization, use of human resources, communication, and board relations. But he does well on educational leadership and making teachers feel he likes them. As a superintendent in general he does poorly over all.

d) A principal who believes that the teacher should regulate the classroom strictly, does well in a small school district, but very poorly in a suburban district and also in a medium sized area (type 5). He is very successful as a superintendent especially as seen by his staff.

Probably the clearest finding yielded by educational values concerns the difference between attitudes of successful principals in suburban and small town districts. Small town principals succeed more who take a rather impersonal, task oriented attitude about the educational situation, while the opposite attitude prevails for successful suburban principals. They prefer a more personal, less disciplinary relationship in the school. This may reflect the greater psychological sophistication of suburbia where a more permissive educational philosophy must be espoused. The old fashioned values of strict regulation of the classroom and an impersonal relation between children, teachers and administrators, where everyone "keeps his place" characterize small town school districts.

The picture for superintendents is less clear due to the inability to divide them by district type. The main indication is that superintendents seem to be able to hold successfully values supporting non-conformity more easily than do principals.

The remaining predictor variables come from a variety of sources other than new scales.

Intelligence. An administrator high on intelligence does very well on technical knowledge both as a principal and as a superintendent. In a suburban principalship he will not give teachers the feeling that he accepts them. In a medium sized district (type 5) he will do fairly well in general. However, the outstanding and by far the clearest characteristic of high intelligence administrators is their knowledge of educational administration.

This is a very interesting finding. Intelligence and technical knowledge are closely related to each other but have very little relationship to any other criterion of successful administration. Since most training for educational administration concentrates heavily on transmitting intellectual material (except for intern programs), the lack of relationship of mastery of this information with other criteria of successful administration suggests a re-evaluation of training.

Conservatism. An administrator who is conservative in political outlook and educational values does very poorly as a superintendent as judged by both staff and board members. He also does not do well as a principal in either suburban or population center districts. As a superintendent in a population center district he also does poorly in general with an interesting exception -- he does give teachers the feeling that he thinks they are significant and competent and that he likes them.

In terms of general political orientation board members are most conservative, teachers are most liberal and superintendents and staff members are in between. Apparently within the range of this middle-of-the-road philosophy administrators who tend toward the liberal side have more success. This is true for superintendents as rated by both staff and board members even though board members tend to be more conservative. This is consistent with the finding that successful superintendents also have a tendency to be more non-conformist than less successful ones.

Family pattern. a) An administrator who comes from a large family does very well as a principal in a suburban or small district, but not very well in a population center or a moderate district. In general he is a successful superintendent except in population center districts where he does quite badly over all.

b) An administrator who is earlier born in his family tends to be a successful small district or suburban principal. He is also successful as a superintendent except in population center districts where he is rated as doing a poor job at his task but fairly well at the interpersonal aspects of administration.

One of the original assumptions of this study is confirmed by this finding. The older child in a large family is a more successful principal in both suburban and small districts, and is a more successful superintendent in general. However, in population center districts administrators from small families seem to do better. The reasons for this are not clear.

Job characteristics. An administrator with many years of teaching experience is outstandlingly unsuccessful as both a principal and a superintendent. Although this is true for every type of district it is especially true for suburban and moderate size district principals, population center superintendents, and for superintendents as judged by their staff. This variable was more negatively related to administrative effectiveness than any other predictor variable in the battery.

An administrator who has held his position for a long time does well in his task performance as a population center superintendent though not as well interpersonally. He does very poorly on all aspects of administration as a suburban principal.

An administrator whose major teaching field was in a scientific area does well as a principal in a moderate sized district. However, he does poorly in a suburban principalship in the interpersonal area, and in small community principalship generally.

These results have many important implications. The surprising result that the longer an administrator has been a teacher the less effective is his administrative skill, is remarkably consistent over principalships and superintendencies for all types of districts. This finding seems to be against most beliefs that govern training programs and legal requirements for administrative credentials, although it is beginning to appear in some research studies (Griffiths, 1961). It may be that teaching and administration require different qualities, or at least they develop different qualities in their practitioners. It is also possible that too many years in the teaching role develops an identification that is difficult to alter when the role changes. Another possible explanation is that administrators who go directly into administration have a greater interest and have been specially selected as having administrative potential. Whatever the reasons, however, it appears that lengthy teaching experience is clearly undesirable for a school administrator.

Sex. A female administrator is regarded very well as a superintendent by her staff. She also does well on the technical side as a suburban principal, but not quite so well in making teachers feel that she respects and likes them.

It's very likely that the fact that it is so much more difficult for a woman to be selected as an administrator means that any woman who succeeds in achieving that position is more carefully selected and is, on the whole, more capable than the average male administrator.

Marriage. An administrator who is married does very well as a small district principal especially in the interpersonal area. Perhaps this result should be stated in the opposite way, that unmarried principals do not succeed in small towns. However, they do quite well as suburban principals, especially in their ratings of their personal and organizational abilities. Married superintendents in population centers are rated quite well in all phases of their job.

This result confirms an earlier one supporting the stereotype of the small town district as adhering to the more traditional, conservative values, and the suburban district having a somewhat more sophisticated value system. In this case the stability of being married seems to be an important factor for small town administrative success, while a bachelor can be effective providing that he function in a suburban area.

Religion. An administrator who prefers a high social status religion (i.e., Episcopal or Unitarian) is rated as a good technical administrator as a small district principal. His overall rating and his personal and organizational abilities are well thought of. Perhaps here too it would be more revealing to state this finding in the other direction, members of low status religion (none, agnostic, Jewish, Catholic) do not succeed as small community principals. They do very well however, as superintendents when rated by their own staff members.

Again the conservatism of the small town is supported in the area of religion. In addition, the contact theory of prejudice is supported by the fact that those who know them best, staff members, rate low status religion superintendents very high. The contact theory states that prejudice is much less for people with intimate contact with the group that is the target of prejudice.

Social Status. An administrator who is a well established citizen in terms of income, mobility and age is generally very low on technical knowledge of administration. He succeeds best as a suburban principal. He also does well as superintendent as seen by his staff, except for the interpersonal abilities where he is undistinguished.

Father. The characteristic of having a high status father doesn't seem to be related strongly to any administrative pattern of success. It probably could be omitted from the final battery.

District type variables

Suburban principals (district type 1, N = 35). Suburban principals were very well predicted by the variables used in the study. The regression correlations predicting technical knowledge, overall rating, task performance and interpersonal competence, were, respectively, .71, .87, .93, .95, all extremely high, with an average of .87.

Principals with most technical knowledge tend to be intelligent, younger, less well established, slightly conservative, and to have been a principal a fairly long time. They are even more successful if they are female.

The best overall ratings from his teachers were given to the administrator who has little teaching experience, is unmarried and well established, who is an older child from a large family where his father allowed him enough freedom but was not fully satisfied with him. He feels the teacher should not regulate classroom behavior too strictly and that education is of intrinsic significance beyond its occupational use.

The suburban principal judged best on his ability to carry out the main functions of his job such as school maintenance, educational leadership, and using human resources, is again the one with relatively little teaching experience, earlier born in a large family with a dissatisfied father, unmarried, well established, and feeling strongly that education is important. In addition, he tends to feel more comfortable in highly structured situations and to be somewhat conformist. He does not project his feelings onto others. Females who have not been on the job very long tend to do better than their male counterparts.

The pattern of the suburban principal who gives his teachers the feeling that he feels they are significant, competent and likeable has many similarities to the pattern of the task successful principal. He has taught very little, is an established citizen who feels education is important, who feels that his father was not quite satisfied with him, and who doesn't project his feelings onto others. But beyond this the pattern diverges considerably. He tends not to have high intelligence, to have taught in a non-scientific field, to have a high status father and prefer a high status religion, to have liberal political leanings and school values, and was satisfied with his father in general, although he wanted the father to give him more freedom.

Although the general picture of the successful suburban principal is of a young, modern, ambitious, individual, there are interesting differences among the various criteria of effectiveness. The principal who is successful in engendering good feelings in his staff tends to be more easy going and non-intellectual than the principal who is successful in his task functions.

Population center principals (district type 2, N = 61). Prediction for this type of principal was good but relatively the poorest of all the district princilpalships. The respective multiple correlations with technical knowledge, overall rating, task ability, and interpersonal competence were .63, .57, .65 and .48, with a mean of .58.

High overall ratings were given to a principal who is an established citizen but not conservative and not conformist, who wants others to think well of him. He has had relatively little teaching experience, and is an earlier born child who wanted more freedom from a father who tended to be not altogether satisfied with him.

Teachers rated a princial high on task performance who is politically and educationally liberal, not conformist, a well established citizen who did not teach very much, and who doesn't deny his feelings. He too feels that his father would have liked him to be somewhat better than he was.

Interpersonal success was very poorly predicted for this sort of principal. There didn't seem to be a clear cut personality pattern among those rated high. The only traits approaching significance were that he came from a small family where his father was somewhat dissatisfied with him.

Small district principals (district type 3, N = 36). Success as a small district principal was predicted extremely well. Multiple regression scores for technical knowledge, overall rating, task efficiency and interpersonal competence were, respectively, .94, .87, .89, and .93 with a mean of .91.

Technical knowledge is greatest for the principal who is an intelligent unmarried male, who does not deny his feelings and claims that he isn't particularly disturbed if people don't think well of him. He feels that teachers should not regulate their classrooms strictly. He feels that his father allowed him enough freedom but wasn't altogether satisfied with him as a child.

High overall ratings were given to the principal who is married and is an older child in a large family with a high status religion, and was not satisfied with his relation with his mother. He doesn't believe that close, personal relations should be encouraged in the school setting, and his teaching field tends toward the sciences.

Success on the task ability factor was more frequent for the principal who is married, comes from a large family, tends to deny anxious feelings, wants people to think well of him, thinks the teacher should regulate the classroom strictly, and has taught in non-science fields.

Interpersonal effectiveness is achieved best by a principal who is married, comes from a relatively small family with a high status father who allowed him enough freedom, who was dissatisfied with his relations with his mother, and denies anxious feelings.

Perhaps the best description of a successful small district principal is that he is "proper". He does what he should, comes from a large family, gets married, keeps his proper place, adheres to one of the more acceptable religions, and doesn't admit to problems -- he's not a "complainer". This contrasts considerably with successful suburban or population center principal who tends to be relatively more liberal and non-conformist.

Moderate size district principals (district type 5, N = 11). Unfortunately there were too few cases to do a regression analysis, or to compute stable enough correlations to warrant a full discussion. The correlations are presented in Appendix D.

Superintendents. In general superintendent performance was well predicted from the variables used in the study, avaeraging about 13 correlation points higher on the average than principal prediction (.59 to .46). The smaller number of superintendents did not allow for a factor analysis of the criteria, so many more single measures of effectiveness were used. Unfortunately, in the breakdown by district type, only the population center type (type 3) had enough cases (29) to do a regression analysis.

The superintendents were analyzed as a total group (N = 77), and as two subgroups, those rated by board members (N = 71) and those rated by members of the superintendent's staff (N=46). There was some overlap of superintendents who were rated by both. It was hypothesized that board and staff members may prefer different qualities in a superintendent. In terms of predictability the superintendents as rated by staff had an average multiple correlation over all criteria of .81 while the superintendents as rated by board members averaged .60.

Population center district superintendents (district type 2, N = 29). These superintendents were predicted exceptionally well by the variables used. The mean multiple correlation for all criteria was .95.

Combining all the task criteria (problem solving ability, educational leadership, organizational ability, ability to use human resources, and communication ability) and all the interpersonal criteria (ability to make staff feel significant, competent and likeable) into two criteria simplified the analysis.

A superintendent effective in this type of district on task performance was dissatisfied with his childhood relation to his mother, satisfied with his relation to his father and feels that his father was satisfied with him as a child. He tends to deny his anxiety and states that he deosn't care whether people think well of him or not, and is married.

The superintendents who rates high on interpersonal effectiveness is also married, is a denier, and was satisfied with his father but not with his mother. The major difference is that this type of superintendent feels that education is primarily aimed at preparing for occupations and practical pursuits rather than having an intrinsic value.

This is a very interesting pattern. Apparently the clear identification with the father and not the mother is an important dynamic in the success of this superintendent. He must perform in many ways in a very masculine manner. He initiates action, shows appropriate aggression, has compassion, serves as a masculine model, makes decisions. If the sex identification is feminine or conflicted, these functions could well suffer considerably.

The clarity of this result suggests that further work on the hypothesis of relational continuity as related to administration would be very fruitful.

Superintendents as rated by staff members. Staff members ratings of superintendents were very well predicted by the predictor variables. Overall rating was predicted with a multiple correlation of .84. The multiple correlations for the task performance criteria were use of human resources .80, problem solving .77, communication .78, educational leadership .84, school board relations .92, school maintenance .79, and organizational ability .77. The mean predictability of the task criteria is .81.

A superintendent rated high overall by his staff members is not conservative, not conformist, doesn't particularly notice, respect and like others generally, feels that education is important for its own sake, has a low status religion, and is more often female.

A superintendent high on a composite of task criteria also is non-conservative and not conformist, but he wants other people to think well of him, is an established citizen and feels that a teacher should regulate strictly the classroom, and also tends to be female.

Superintendents as rated by board members. Prediction of administrative success as measured by board members ratings was good but did not reach the level of prediction of the staff-rated superintendents. On overall rating the multiple correlation was .60. On the task criteria the multiple correlations were use of human resources .63, problem solving .58, communications .59, educational leadership .59, board relations .61, school maintenance .49, and organizational ability .48. Mean for the task criteria is .51. For the interpersonal criteria prediction was somewhat higher: making board members feel important .63, feel competent .64, and feel liked .62.

A superintendent rated as good overall by board members is an early born child from a large family, quite satisfied with his relation to his father, who wants people to think well of him. He is not conservative in his views especially political, and is not among the more intelligent superintendents.

A high task performance superintendent is also an early born child from a large family who wants people to think well of him. In addition he tends to be a conformist.

A superintendent who has successful interpersonal relations with school board members has a high status father with whom his relation was quite satisfactory, but his relation with his mother was not so satisfying. He does not believe in close relations among people in the school situation. He is married, tends to deny feelings of anxiety, somewhat conformist and used to teach in a scientific field.

Combined superintendents (N = 77). Superintendents taken as a whole, combining the ratings of both staff and board members were predicted fairly well. The multiple correlation for overall rating was .61. The task performance ratings were predicted as follows: use of human resources .58, problem solving .57, communication .52, educational leadership .50, board relations .64, school maintenance .69, and organization .61, with a mean on task performance of .59.

Superintendents high on an overall rating do not form a clear cut type. They tend not to like close relations in school and they have not held their positions very long, but those are about the only traits that characterized these superintendents.

A superintendent rated high on a composite of seven task performance measures comes from a large family, is not conservative in his views, and has little teaching experience.

The paucity of results when the board and staff ratings are combined supports the view that these two rater groups have different criteria for administrator performance. If the rating groups are taken separately a fairly clear picture emerges of superintendents selected by each group, and these pictures differ in plausible ways from each other. However, combining the two types of ratings befogs the outline of the desirable superintendent since board members and staff apparently require different qualities.

In general the superintendents are less conservative and conformist than principals. It is difficult to tell whether administrators with these traits tend to rise to the position of superintendent or the job affords an opportunity to be more liberal.

Shortcomings of the Study

Although the results of the study seem highly satisfactory and at times quite unexpected and exciting, several shortcomings are very evident at many points throughout the investigations. A discussion of these may help to avoid them in the future and to point the way for building on the present work.

Sample size

Although the number of people tested is very large (5847) the actual number of administrators was not sufficient to make as many statistical breakdowns as desired. More superintendents and more district type 4 and 5 principals would have allowed for a more detailed analysis. The number of variables compared to the number of subjects reduces the adjusted multiple correlation considerably which in turn reduces the stability of these results. Fortunately for many results the correlation was so high that even the adjusted figure was very impressive.

The nature of the study made it very difficult to get a larger sample. It took a great deal of cooperation to get as many subjects as were obtained, and acquiring additional subjects seemed more than could be accomplished in this study. Further, to develop the test battery from an original twelve hours to a final two hours, and to devise a method for selecting districts and classifying them occupied the bulk of time on the project.

Now that the test battery and the method of district classification have been developed it should be a relatively easy matter for a researcher to increase the size of the sample so that more reliable and detailed information is available.

Metropolitan districts

Unfortunately the very important metropolitan school districts were not well studied in this project. The reasons for this are several. There are very few to begin with, only seven falling into district type 4, and of those only two agreed to participate in the study, and one of those two would not allow the teachers to be tested, which meant that since there could be no effectiveness ratings on their principals, they could not be studied. This of course meant that no meaningful study could be made of these districts.

The small numbers of metropolitan districts makes it imperative that they be studied across state lines. There just aren't enough metropolises in one state.

Another possible approach is to consider the very large district as an entity in itself. Los Angeles for example, for administrative purposes has divided itself up into sections with associate superintendents given a great deal of autonomy for their section. The same is true of New York and other large districts. This organization is in reality a school system in itself and is often larger than systems covering an entire state. It seems that quite a different approach must be made to these districts, something that perhaps should have been anticipated in this study.

Behavior measures

Looking over the battery of individual measures that finally emerged from the study, two impressions result. The battery seems very comprehensive, covering a wide range of important individual traits. The excellent predictability of virtually every measure for some important aspect of administration supports this view. Two areas, however, seem to have been neglected, and very likely could have enhanced the findings -- interpersonal behavior, and relations between the administrator's father and mother.

When the final battery was being reduced to its final form a decision was made to retain interpersonal feelings (FIRO-F) as an individual variable, and omit interpersonal behavior (FIRO-B). Space and time considerations were the main determinants of this decision. Hindsight indicates that retaining FIRO-B (or some other behavioral measure) as well as FIRO-F would have enhanced the picture. Factors like dominance, desire for closeness and need to be with people, are very likely important administrative traits.

In the pilot study one of the most effective predictors of principal performance was his perception of the relation between his mother and father. This phenomenon was called vicarious identification or vicarious transference (see chapter 3, p. 52 ff.), meaning that the administrator relates to others the way his father (or mother) relates to his mother (or father). Again because of time limitations the vicarious section of the LIPHE questionnaire was deleted from the battery. In light of the exceptional success of the LIPHE scales in the study, it seems likely that the vicarious scales would have been very revealing.

Method of analysis

The large number of variables used in the study dictated the use of large data reduction techniques such as factor analysis and multiple regression. As powerful and effective as these methods are they seem to lead to imprecision as the problem becomes more defined. Perhaps now that the problem has now become more focussed, other statistical methods, in particular the survey techniques developed by Lazarsfeld (   ), Hyman (   ), Buttman (   ) and others may be more appropriate for investigating the relations among the variables isolated.

Approximation

A caution, perhaps more than a shortcoming, is to underline the approximate nature of all of these findings. The district types contain only relatively homogeneous districts, the method for selecting or placing administrators gives only a probability of success. As with any empirical study these results can only help to reduce errors, they should not be expected to lead to anything approaching certainty, nor should they be used alone, uncouched by the experiential wisdom of those employing the methods. If the expectation is realistic, the disappointment will be less, and the method can be improved.

What next?

These shortcomings imply next steps in this research area. If this research is to continue it would seem that the following factors should be considered.

...Add FIRO-B and vicarious LIPHE (or equivalents)to the test battery.
...Greatly increase the population in all district types.
...Explore the use of survey methods for more detailed analysis of the data.
...Consider studying the metropolitan districts separately.

Conclusions, Observations and Recommendations

Acknowledging the shortcomings discussed above, the main hypotheses of the study were strongly confirmed. It is possible to predict administrative performance from individual variables, and controlling for different district types greatly increases the predictability. Successful principals and superintendents show different properties in different types of districts often consistent with stereotypes, for example, the provincialism and conservatism of a small town school district as opposed to more sophisticated attitudes in a suburban district. Virtually all of the individual measures derived theoretically proved to be empirically powerful predictors of administrative success.

Several impressions derived from the study and from the experience with educational institutions and school districts lead to the following observations about the school situation and educational administration in particular.

1. The lengthy teaching requirement (five years in California, for example) for a credential in educational administration seems not only unnecessary but actually a deterrent to obtaining effective administrators. Overwhelmingly the study results indicated that the longer the teaching experience the lower the effectiveness rating of the administrator.

This does not mean that no teaching experience is required. Rather it seems to point to a total intern model as a more appropriate one for this phase of administrative training. The objective of the teaching requirement seems to be to give the administrator a thorough acquaintance with the primary function of the school -- teaching. Two difficulties with this view, as recognized frequently in industry, are, a) there are many other functions of the school with which first hand acquaintance would also be valuable, and, b) teaching is very different at different grade levels and with different types of students and a teaching requirement that just involves a length of time does not guarantee experience with teaching diversity.

These considerations suggest that the teaching requirement could be modified into an internship requirement (and perhaps combined with existing intern programs) such that the administrator trainee is given first hand experience with all aspects of the school including a variety of shorter, more varied teaching assignments. He may, for example, serve an apprenticeship in the business office, with the school psychologist, with the school nurse, with the custodial service, and with the school board during their deliberations. He should also be involved in curriculum discussions, special teachers workshops, attend administrator conventions, in short, participate in all the activities which he will eventually administer. In addition, and probably concurrently, he can be teaching in the primary grades, the intermediate grades, and in high school (depending on the level of his administrative goal), and with intellectually gifted classes, retarded classes, heterogeneous classes, and if possible in special education (blind, etc.).

Obviously this is an ideal and requires considerable planning to organize effectively, and perhaps it will not always be possible to obtain this training for every trainee, but as a goal it seems worth striving for.

Discussions with many students uncovered another factor to support this type of program. The lengthy teaching requirement frequently had to be met prior to entry into the administrative training program. This was a deterrent to many bright, young men entering the field of administration, since they anticipated teaching perhaps five years before they entered graduate school. By that time they could have received a doctorate in another field, hence a high quality source of material for educational administration discouraged by an unnecessary requirement.

2. The emphasis in the traditional education administration curriculum seems misplaced. Although some schools are beginning to change, the characteristic course load emphasizes what has here been called technical knowledge, that is school law, finance, organization, building, etc. While this knowledge is obviously essential, its mastery seems to have little or no relation to administrative success. A small portion of the administrator's efforts involve these factors while a very high proportion of training time is devoted to it. On the other hand several areas that occupy a very large portion of the administrator's time are given relatively little attention in the curriculum. Although these areas are not immediately evident from the empirical results, a combination of the criteria of administrative effectiveness and observations and interviews with many administrators suggests the following areas that could profitably be expanded in administrator training.

a) Human relations training. Over and over the statement is made that the great majority of an administrator's job is spent in dealing with people -- school board members, staff, teachers, parents, community leaders, students -- and they rarely are given specific training in this area. At the same time, training in human relations has been developing rapidly in the past decade particularly within a division of the National Education Association called the National Training Laboratories. This type of training has evolved through lectures, demonstrations, case discussions, role playing, and other techniques to the"laboratory method", which is based on the "T-group" (for training), also called the "encounter" group. This method involves having administrative trainees form a group of their own and express their feelings about the group, about each other and about themselves. This gives them an opportunity to understand group processes better, to know the impact they make on others, and to understand themselves more. Where it has been tried the method seems to be very effective as a technique for training in a field in which it is traditionally very difficult to provide a long-lasting learning experience.

Inclusion of an experience of this type early in the training program may help fill the need for human relations training.

b) Training in scientific method. Administration is by definition a decision making function. Yet training in scientific method is not always a central part of the administrative curriculum. Administrators seem to need additional help in formulating problems, gathering and evaluating evidence, and testing hypotheses. Too often an irate parent sends an administrator off on a course of action not warranted by the situation. Some method of sampling community attitudes, of evaluating research reports, of initiating needed research, is necessary for optimal administrative performance.

Coursework in which the general principles of scientific method are taught, and their application to administration are demonstrated seems an important part of a training program.

c) Organization and community theory. A knowledge of the school as an organization and the community as a sociological entity is very important for the school administrator. The burgeoning field of organization theory and the methods being developed for planning change and for being a "change agent" are very relevant. Similarly an understanding of community forces is essential to administrative success.

d) Selection and placement. In order to make the results of this study most useful, a manual for how to use the method for selection and placement of administrators is presented in the next section. This should allow anyone to make immediate use of the method in his own local situation.

The advent of the teachers unions which bids fair to bring about a revolution in the relation of administrator to teacher, the expanding role of the schools in national problems such as race relations and poverty, the influx of many new teaching methods, all demand more care in training, selecting and placing school administrators. From the observations of this project, great improvement is needed in all these areas. These suggestions are offered to that end.

Manual for Selection and Placement of School Administrators and Diagnosis of Administrative Problems

by

William C. Schutz

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This manual may be used for three purposes:

1. Selection. For school boards or selection committees choosing superintendents and for superintendents selecting principals this method may be used. The method compares several candidates on administrative criteria chosen by the selectors for a position in a specified type of school district.

2. Placement. For placement officers or for administrators themselves this method may be used to place a principal or superintendent into the type of school situation in which he is most likely to succeed.

3. Diagnosis. This method may be used to examine and analyze administrative difficulties by contrasting the traits of an administrator in a given school situation with the ideal administrator for that situation. The discrepancies may be used as clues to difficulties.

This method should always be used as supplementary to other selection methods. The commonly used selection methods such as personal interview are in no sense superceded by the present technique. This objective approach may serve as an important aid to the process of selection, placement and diagnosis.

Since the data used to derive this technique were obtained in California, strictly speaking the method should be used only in that state. However, the procedure for classifying districts is applicable to any district anywhere. Further research is needed to clarify state differences. Until that time it seems most useful to use the method experimentally with awareness that state differences may affect the results.

Assessment Procedure

The assessment procedure is similar for both principals and superintendents:

1. Classify the school district or attendance area (henceforth the term "school district" is understood to mean "school district or attendance area") for the school for which the superintendent or principal is to be selected.
   a. Convert the school district into census tracts most closely approximating the school district.
   b. Locate district in the 1960 census and in state board of education publications.
   c. Convert these data to decile scores using the tables given below for your type of school district (for superintendents) or attendance area (for principals).
   d. Compare profile of decile scores for your district with ideals profiles for type of district in your school type.
2. Select criterion or criteria of administrative effectiveness most important to the school district for the job you wish to fill.
3. Administer to applicant and score test battery.
4. Weight test scores according to weightings provided in Table 4 for your type of school district and the criterion chosen.
5. Applicant receiving highest weighted score has the highest probability of administrative success as measured by the criterion chosen.

These steps will now be considered in detail.

District and Attendance Area Classification

1. Convert your school district area into census tracts that most closely approximate your unit.

Since the sampling units employed by the U.S. Census are not ordinarily identical with the school district boundaries, it is necessary to find the census units which most closely approximate the school units. This is accomplished by placing a map of your school district over a map of the state census units and finding the census units best approsimating the district.

Each school district is converted into its equivalent census tract or standard metropolitan statistical area. Since school district boundaries rarely overlap with census tract boundaries, to match census areas with school districts the following rules are used for the conversion.

a) If a district covers three-fourths or more of a census tract, division, or standard metropolitan statistical area, the entire tract, division, or area is attributed to that school area.

b) If between one-fourth and three-fourths of a tract, division, or area was covered by a school, half of the total population of that census area is attributed to the school area.

c) If less than one-fourth of a census tract, division or area falls within a particular school district area, that census area is disregarded.

d) If a single census unit covers two districts, that census unit's population figures are attributed to both school areas.

2. Look up in the 1960 census the following information for your district as converted to census units.

a) School enrollment ratio, the percentage of the total population of the district enrolled in the public schools (exclude college enrollment).

b) Education, the median number of years of school completed for persons 25 years old and over.

c) Geographical stability, the number of people who left the county, or standard metropolitan statistical area (SMSA) in the five-year period between 1955 and 1960 divided by the total number of people in the district who were over five years of age. (High number means low stability.)

d) Personal income, the median income of persons living in the district.

e) Income variation, the semi-interquartile range (the difference-in-deciles -between the income of persons at the 25th and 75th percentiles).

f) Occupation level, the average level of occupation as defined by the average score of occupations as classified by the census. Multiply the number of persons in each census occupation by the number given below and divide by the total number of persons in the district.

Professional, technical and kindred workers	7
Managers, officers and proprietors, including farm	6
Clerical and kindred workers	3
Sales workers	3
Craftsmen, foremen and kindred workers	4
Operatives and kindred workers	2
Private household workers	2
Service workers except private household	2
Laborers, except mine	1

g) Occupation variation, the semi-interquartile range as computed for income variation.

h) Median age, obtained directly from the census.

i) Percent married.

j) Percent white.

k) School(district) size, the average daily attendance (ADA) in the public schools as supplied in the Annual Financial Report of the California State Board of Education.

l) Tax wealth, the assessed valuation per ADA of the school district is also published in the Annual Financial Report. Attendance areas for which there are no published figures take the value assigned to the district in which they are located.

m) School expenditures, are reported in the Annual Financial Report as current expenditures per ADA.

3. Convert the raw scores obtained on these variables to decile scores. Since the distribution of values varies from one type of district to another decile scores also vary. Table 1 presents the conversion charts for each type of district for each variable.

Table 1

Conversion chart of raw scores to deciles for school district and attendance area classification

1a. Unified districts

Decile Score	1)School Enrollment ratio	2)Education (Median yrs. school)	3)Geographical Stability	4)Personal Income (Median family incom
0	15.2-16.8	9.1-10.2	49.6-61.1	$ 2766-4855
1	16.9-17.6	10.3-10.5	46.3-49.5	4856-5482
2	17.7-19.4	10.6-11.3	44.6-46.2	5483-5943
3	19.5-21.1	11.4-11.5	43.2-44.5	5944-6157
4	21.2-23.1	11.6-11.8	40.3-43.1	6158-6454
5	23.2-24.0	11.9-12.0	37.7-40.2	6455-6776
6	24.1-25.0	12.1-12.1	35.2-37.6	6777-7135
7	25.1-26.4	12.2-12.2	32.6-35.1	7136-7446
8	26.5-27.8	12.3-12.4	25.7-32.5	7447-7837
9	27.9-28.8	12.5-13.1	20.3-25.6	7838-8105

Decile Score	5)Variation in income	6)Occupation level	7)Variation in occ. level	8)Median age	9)Percent married	10)Percent white
0	2	2.62-3.16	2	23.3-25.0	31.3-57.3	73.6-82.3
1	3	3.17-3.28	-	25.1-26.9	57.4-62.8	82.4-90.3
2	4	3.29-3.51	3	27.0-27.9	62.9-65.6	90.4-94.6
3	-	3.52-3.60	-	28.0-29.8	65.7-67.2	94.7-95.6
4	-	3.61-3.69	-	29.9-31.5	67.3-69.1	95.7-97.0
5	5	3.70-3.83	4	31.6-32.9	69.2-70.8	97.1-98.5
6	-	3.84-3.96	-	33.0-35.5	70.9-72.2	98.6-99.0
7	-	3.97-4.11	-	35.6-37.6	72.3-73.2	99.1-99.2
8	6	4.12-4.19	5	37.7-41.4	73.3-74.1	99.3-99.4
9	7	4.20-5.70	6-7	41.5-47.5	74.2-81.5	99.5-99.9

Decile Score	11)School District Size (ADA)	12)Tax Wealth (AV/ADA) (in thousands)	13)School Expenditures (CE/ADA)
0	19-148	15-23.44	32,099-36,322
1	158-259	23.45-26.4	36,359-38,423
2	264-388	26.5-29.1	38,500-40,022
3	390-550	29.15-32.2	40,056-41,209
4	557-816	32.3-34.4	41,793-43,919
5	817-1122	34.5-38	44,028-45,673
6	1126-1625	38.5-44	45,769-48,571
7	1663-3007	45-53	48,630-53,558
8	3021-5450	54-72	53,590-58,484
9	5678-134,324	73-327	61,955-100,279

Table 1 continued

1b. Union high school districts

Decile Score	1) Enrollment ratio	2) Median yrs. school	3) Geographical Stability	4) Median family income
0	17.8-18.9	8.2-9.0	51.0-61.1	3715-4512
1	19.4-20.6	9.1- 9.2	45.2-46.3	4742-4883
2	20.8-22.1	9.4- 9.8	42.0-44.3	4899-5218
3	22.6-23.5	9.9-10.6	40.6-41.8	5260-5333
4	24.2-25.0	10.8-10.8	39.7-40.2	5381-5623
5	25.4-26.1	11.1-11.1	38.3-39.4	5662-5960
6	26.2-26.9	11.3-11.4	37.1-37.6	5963-6247
7	27.1-27.6	11.9-12.0	32.9-36.8	6422-6900
8	27.9-29.0	12.1-12.3	29.7-32.0	7350-7503
9	30.4-53.7	12.7-13.4	16.5-28.5	8017-9965

Decile Score	5) Variation in income	6) Occupation level	7) Variation in occ. level	8) Median age	9)Percent married	10)Percent white
0	3	2.64-2.77	2	22.4-24.1	40.2-62.1	85.6-89.0
1	-	3.06-3.20	3	24.2-24.3	62.0-66.0	89.4-91.9
2	4	3.27-3.37	-	24.9-25.4	66.2-66.6	92.3-93.2
3	-	3.39-3.45	4	25.8-26.4	67.3-68.3	93.3-94.4
4	-	3.51-3.55	-	26.7-27.6	68.5-69.2	94.7-96.1
5	5	3.58-3.72	5	28.2-29.2	69.4-69.7	96.5-96.9
6	-	3.74-3.78	-	30.0-30.6	69.9-70.8	97.2-98.1
7	6	3.82-3.86	6	31.8-33.5	70.9-71.8	98.5-99.0
8	7	4.00-4.11	-	33.6-34.2	72.1-74.6	99.1-99.3
9	9	4.30-4.82	7	36.1-47.7	77.7-87.5	99.4-99.9

Decile Score	11) ADA	12) AV/ADA (in thousands)	13) CE/ADA

Table 1 continued

1c. Union elementary school districts

Decile Score	1)School Enrollment Ratio	2)Education (Median Yrs.School)	3)Geographical Stability	4)Median Family Income
0	13.0-19.6	6.2- 8.4	46.6-67.4	3113-3837
1	19.8-21.0	8.5- 9.0	44.5-46.3	3940-4573
2	21.2-23.4	9.1- 9.7	43.5-44.3	4674-5072
3	23.6-24.8	9.9-10.4	41.5-43.0	5083-5384
4	25.0-26.3	10.5-10.8	39.1-41.1	5393-5624
5	26.6-27.5	11.0-11.3	37.5-38.9	5631-5777
6	27.7-28.4	11.5-11.8	33.9-37.1	5848-6332
7	28.5-28.7	12.0-12.1	31.4-33.0	6362-6624
8	28.8-30.0	12.3-12.6	26.6-30.3	6644-7602
9	30.4-57.7	12.7-13.7	13.8-25.2	8289-10,864

Decile Score	5)Variation in income	6)Occupation Level	7)Variation in Occ. Level	8)Median Age	9)Percent Married
0	2	1.09-2.34	1-2	18.7-21.9	40.2-59.5
1	-	2.56-2.76	3	22.1-23.7	61.2-64.4
2	3	2.83-3.07	-	23.8-24.7	64.5-68.2
3	-	3.10-3.31	4	25.3-26.4	68.3-69.2
4	4	3.40-3.55	-	27.4-28.6	69.3-70.1
5	-	3.58-3.70	-	29.0-30.5	70.2-71.4
6	-	3.71-3.79	5	30.6-31.8	71.5-73.3
7	5	3.80-4.15	6	32.0-32.8	73.5-74.9
8	-	4.21-4.42	7	33.0-38.4	75.7-77.3
9	6	4.52-5.95	8-9	39.5-47.7	77.6-99.5

Decile Score	10) Percent White	11)School District Size (ADA)	12)Tax Wealth (AV/ADA) (in Thousands)	13)School Expenditu (CE/ADA)
0	70.5-87.2	11-19	1.9-5.2	39,527-47,322
1	89.5-92.3	26-42	5.3-6.2	47,451-49,896
2	92.6-94.2	47-71	6.6-7.7	49,985-52,465
3	94.7-96.1	79-104	7.8-9.3	52,487-54,130
4	96.4-97.5	128-368	9.5-12.2	54,179-56,724
5	97.8-98.2	379-604	13.0-14.7	56,778-59,444
6	98.4-98.9	641-1111	16.1-21.2	59,446-62,214
7	99.0-99.2	1131-1855	23.6-32.9	62,318-68,111
8	99.3-99.5	2308-4215	34.2-42.1	68,955-81,679
9	99.6-99.8	4268-21,190	42.6-295.3	82,307-143,651

Table 1 continued

1d. Attendance areas of high schools in unified districts

Decile Score	1)School Enrollment ratio	2)Median yrs. school	3)Geographical Stability	4)Median Family Income
0	11.7-16.0	9.1-10.2	50.8-61.1	2766-5183
1	16.2-17.2	10.4-10.5	48.1-50.5	5280-5500
2	17.4-19.3	10.6-10.9	45.4-48.0	5511-6011
3	19.4-21.2	11.2-11.3	44.2-45.2	6048-6273
4	21.3-23.4	11.4-11.6	41.7-44.0	6338-6742
5	23.7-24.2	11.7-11.8	37.8-41.5	6758-7242
6	24.6-25.7	11.9-12.1	35.4-37.7	7269-7523
7	26.0-27.6	12.2-12.2	33.7-34.7	7630-7814
8	28.0-29.5	12.3-12.4	29.6-32.4	7815-8105
9	29.9-36.5	12.5-13.1	14.9-28.0	8232-9288

Decile Score	5)Variation in income	6)Occupation level	7)Variation in occ. level	8)Median age
0	3	2.62-3.10	2	21.0-24.5
1	-	3.11-3.34	-	24.9-27.1
2	-	3.35-3.45	3	27.2-28.0
3	4	3.50-3.55	-	28.3-29.6
4	-	3.57-3.61	-	29.7-31.6
5	-	3.64-3.81	4	31.7-32.4
6	5	3.82-3.97	-	32.7-34.9
7	-	3.99-4.03	-	35.0-37.8
8	-	4.05-4.15	5	37.9-41.6
9	6	4.19-4.48	6-7	41.7-49.9

Decile Score	9)Percent Married	10)Percent White	11)Tax wealth (AV/ADA) (in thousands)	12)School expenditures (CE/ADA)
0	17.1-56.5	32.3-82.1	15-23.44	32,099-36,322
1	56.7-60.3	82.3-90.0	23.45-26.4	36,359-38,423
2	60.4-65.0	90.5-94.4	26.5-29.1	38,500-40,022
3	65.4-67.1	94.7-95.1	29.15-32.2	40,056-41,209
4	67.5-69.7	95.3-97.7	32.3-34.4	41,793-43,919
5	69.8-70.9	97.8-98.6	34.5-38	44,028-45,673
6	71.1-71.4	98.8-99.0	38.5-44	45,769-48,571
7	71.7-73.3	99.1-99.3	45-53	48,630-53,558
8	73.5-75.4	99.4-99.6	54-72	53,590-58,484
9	76.4-81.1	99.7-99.9	73-327	61,955-100,279

Table 1 continued

1e. Attendance areas of elementary schools in unified districts

Decile Score	1)School Enrollment ratio	2)Median yrs. school	3)Geographical stability	4)Median famil income
0	9.7-14.1	8.3- 9.3	57.1-61.4	3583-4584
1	14.3-16.1	9.5- 9.9	49,5-55.1	4593-5214
2	16.2-18.5	10.0-10.7	47.5-49.1	5318-5583
3	19.0-19.9	10.8-11.2	43.7-45.6	5585-5954
4	20.4-21.3	11.3-11.5	40.9-43.0	5967-6299
5	21.7-23.2	11.6-11.8	38.3-40.7	6412-6625
6	23.3-24.4	11.9-12.2	36.6-38.1	6634-6875
7	25.0-28.0	12.3-12.3	33.1-36.4	6909-7517
8	28.2-30.2	12.4-12.5	27.4-29.7	7528-7835
9	30.4-33.4	12.6-12.8	0.4-27.2	7879-8723

Decile Score	5)Variation in income	6)Occupation level	7)Variation in occ.level	8)Median age
0	3	2.45-2.70	1	18.2-24.4
1	-	2.80-3.07	2	24.9-26.5
2	4	3.09-3.35	-	26.7-28.2
3	-	3.40-3.51	-	28.3-29.8
4	-	3.53-3.54	-	30.0-31.2
5	5	3.57-3.60	3	31.4-32.1
6	-	3.61-3.77	4	32.3-35.4
7	-	3.80-3.88	-	35.9-38.4
8	6-7	3.90-4.20	5	40.1-43.7
9	-	4.22-4.62	6-7	43.8-52.8

Decile Score	9)Percent married	10)Percent white	11)Tax wealth (AV/ADA) (in thousands)	12)School expenditures (CE/ADA)
0	17.1-49.6	03.8-47.6	19.473-23.865	320-378
1	51.7-56.7	49.8-72.2	24.772-31.351	379-404
2	56.9-62.2	73.5-87.9	31.997-33.773	410-412
3	62.5-66.0	88.9-95.9	35.700-37.376	430-439
4	66.6-67.6	97.2-97.9	37.500-42.348	456-471
5	68.0-70.4	98.0-98.4	42.457-42.783	477-485
6	70.8-71.3	98.7-99.1	42.784-43.866	494-535
7	71.7-73.3	99.2-99.4	43.867-44.018	
8	73.5-76.5	99.5-99.6	45.870-53.602	536-536
9	76.7-86.4	99.7-99.9	61.199-167.696	537-1388

1f. Union high school attendance areas

Decile Score	1)School Enrollment Ratio	2)Education (Median Yrs. School)	3)Geographical Stability	4)Median Famil Income
0	16.0-18.7	8.2- 9.1	46.5-61.1	3715-4512
1	19.4-21.0	9.2- 9.5	45.2-46.3	4693-4793
2	22.1-22.6	9.7- 9.9	42.2-44.3	4883-5218
3	23.0-23.7	10.2-10.6	40.7-42.0	5260-5332
4	24.2-25.6	10.8-10.9	39.6-40.6	5333-5662
5	26.1-26.3	11.1-11.3	38.3-39.4	5687-6149
6	26.9-27.4	11.4-11.4	36.7-37.5	6155-6644
7	27.5-28.3	11.5-12.0	33.7-36.4	6680-6985
8	28.7-30.2	12.1-12.5	31.0-33.3	7117-7920
9	30.4-43.8	12.6-13.6	16.5-27.7	8327-10,694

Decile Score	5) Variation in income	6) Occupation Level	7)Variation in Occ.Level	8)Median Age
0	3	2.64-2.77	-	18.2-23.0
1	-	2.93-3.17	-	23.1-24.2
2	-	3.20-3.30	3	24.5-25.2
3	4	3.32-3.39	-	25.4-26.3
4	-	3.42-3.52	4	26.4-27.6
5	-	3.55-3.63	-	28.4-29.9
6	5	3.64-3.78	5	30.0-30.9
7	-	3.80-3.94	-	31.1-31.9
8	-	3.99-4.36	6	32.4-33.8
9	6	4.49-5.03	-	34.2-47.7

Decile Score	9)Percent Married	10)Percent White	11)Tax Wealth (AV/ADA) (in Thousands)	12)School Expenditures (CE/ADA) (in Thousands)
0	40.2-56.4	85.6-87.4	17.0-21.9	42.1-43.3
1	64.1-66.2	88.8-90.3	22.6-24.6	45.3-46.5
2	66.6-67.3	90.9-93.2	24.6-25.2	46.8-48.1
3	67.6-68.9	93.6-94.8	25.3-29.2	48.6-51.1
4	69.2-69.6	95.1-96.4	29.3-29.5	52.2-52.8
5	69.7-70.6	96.5-97.8	29.9-32.0	53.6-55.4
6	70.9-71.7	98.1-98.9	32.4-34.0	55.5-56.7
7	71.8-72.7	99.0-99.0	35.4-44.1	57.1-61.2
8	73.5-77.4	99.1-99.2	45.6-51.2	61.4-66.0
9	78.2-86.8	99.3-99.6	66.4-284.8	66.1-143.6

Table 1 continued

1g. Union elementary school attendance areas

Decile Score	1)School Enrollment Ratio	2)Median Yrs. School	3)Geographical Stability	4)Median Family Income
0	14.8-19.4	6.2- 8.6	46.6-61.1	3113-4036
1	19.6-21.2	8.7- 9.3	44.5-46.3	4086-4676
2	21.3-23.7	9.4-10.0	43.5-44.3	4684-5121
3	24.4-25.0	10.1-10.6	40.8-43.0	5126-5384
4	25.4-26.9	10.7-10.8	38.8-40.4	5393-5631
5	27.0-27.9	11.1-11.5	37.1-38.6	5633-5950
6	28.1-28.7	11.6-12.1	32.5-36.4	5973-6458
7	29.1-29.7	12.3-12.3	29.0-32.4	6596-7165
8	29.9-30.9	12.4-12.6	23.8-28.8	7203-8563
9	31.1-60.0	12.8-14.0	10.6-22.4	8664-11,875

Decile Score	5)Variation in Income	6)Occupation Level	7)Variation in Occ. Level	8)Median Age
0	-	1.48-2.56	1-2	17.4-21.0
1	-	2.58-2.83	-	21.1-22.6
2	3	2.87-3.11	3	23.0-23.9
3	-	3.13-3.33	-	24.1-25.3
4	-	3.40-3.55	4	25.4-26.8
5	4	3.57-3.66	-	27.1-29.9
6	-	3.70-3.79	-	30.0-31.4
7	-	3.81-4.13	5	31.6-32.8
8	5	4.15-4.42	6-8	33.0-34.3
9	-	4.47-5.27	-	37.0-47.7

Decile Score	9)Percent Married	10)Percent White	11)Tax Wealth (AV/ADA) (in Thousands)	12)School Expenditure (CE/ADA) (in Thousands)
0	30.8-61.2	78.1-87.6	16.9-19.4	42.1-45.3
1	62.5-66.7	90.2-92.9	21.8-23.5	46.5-47.3
2	66.8-68.5	93.9-95.3	23.7-25.1	47.4-48.6
3	69.2-70.2	95.6-96.9	25.3-29.2	49.7-51.1
4	70.5-70.9	97.0-97.9	29.3-30.8	52.2-52.8
5	71.2-72.8	98.1-98.6	31.3-31.9	53.6-55.4
6	73.5-74.9	98.8-99.2	32.3-33.1	55.5-56.7
7	75.2-76.7	99.3-99.4	33.7-38.3	57.1-61.4
8	76.8-79.5	99.5-99.6	40.5-48.8	62.1-66.1
9	79.9-99.5	99.7-99.9	51.1-284.8	69.4-143.6

The profile of decile scores now available is compared with the profiles of ideal district types. These too vary depending on the district. Table 2 presents the ideal profiles of each district type for each type of school unit.

Table 2

Decile score profiles for ideal types of school districts

District Type 1

Census Variables:	Enrl	Educ	Mob	Inc	VInc	Occ	VOcc	Age	Mar	Wht	Size	Wlth	Xpnd
UfD	1	6	x	5	6	x	3	7	1	1	8	7	7
UnHSD													
UnESD													
UfHSAA													
UfESAA	6	4	x	5	x	3	x	x	6	4	x	7	8
UnHSAA													
UnESAA													

(The remaining areas do not have districts of type 1.)

District Type 2

Census Variables:	Enrl	Educ	Mob	Inc	VInc	Occ	VOcc	Age	Mar	Wht	Size	Wlth	Xpnd
UfD	5	7	x	9	5	x	2	5	7	7	5	4	5
UnHSD	x	8	x	8	x	x	7	6	6	8	1	3	4
UnESD	x	9	7	9	x	8	x	4	x	7	5	6	6
UfHSAA	5	7	x	8	x	7	x	x	6	5	x	7	7
UfESAA	1	6	x	5	x	5	x	x	3	6	x	6	7
UnHSAA	x	9	7	9	x	7	x	4	x	7	x	5	5
UnESAA	x	9	6	9	x	9	x	7	x	9	x	4	5

District Type 3

Census Variables:	Enrl	Educ	Mob	Inc	VInc	Occ	VOcc	Age	Mar	Wht	Size	Wlth	Xpnd
UfD	4	4	x	5	3	x	4	3	3	2	7	2	4
UnHSD	x	5	x	5	x	x	7	5	5	5	4	3	2
UnESD	x	4	3	4	x	6	x	4	x	6	2	2	2
UfHSAA	7	4	x	4	x	3	x	x	8	7	x	3	1
UfESAA	7	2	x	3	x	4	x	x	7	4	x	1	1
UnHSAA	x	5	3	5	x	4	x	5	x	8	x	3	2
UnESAA	x	3	4	5	x	4	x	2	x	5	x	1	4

(Table 2 continued on next page)

District Type 4

Census Variables:	Enrl	Educ	Mob	Inc	VInc	Occ	VOcc	Age	Mar	Wht	Size	Wlth	Xpnd
UfD	4	2	x	1	6	x	5	8	5	6	0	8	8
UnHSD	x	3	x	4	x	x	3	5	6	4	8	9	8
UnESD	x	3	5	2	x	4	x	1	x	2	6	7	6
UfHSAA	2	3	x	2	x	2	x	x	2	2	x	6	7
UfESAA	5	1	x	1	x	0	x	x	3	0	x	6	7
UnHSAA	x	3	3	3	x	5	x	6	x	4	x	7	8
UnESAA	x	4	2	5	x	5	x	7	x	3	x	8	9

District Type 5

Census Variables:	Enrl	Educ	Mob	Inc	VInc	Occ	VOcc	Age	Mar	Wht	Size	Wlth	Xpnd
UfD	7	1	x	2	2	x	9	3	5	5	3	3	0
UnHSD	x	0	x	1	x	x	2	2	1	1	6	4	5
UnESD													
UfHSAA	7	2	x	1	x	3	x	x	5	4	x	1	0
UfESAA													
UnHSAA													
UnESAA													

(The remaining areas do not have districts of type 5.)

UfD = Unified district
UnHSD = Union high school district
UnESD = Union elementary school district
UfHSAA = Unified high school attendance area
UfESAA = Unified elementary school attendance area
UnHSAA = Union high school attendance area
UnESAA = Union elementary school attendance area

From each of these ideal profiles compute the average discrepancy score with your district profile. The district type with the smallest discrepancy is the district type of your district.

To get an estimate of how well your district fits into its type a second digit is attached to the district type in the following fashion. Your district is considered to be a "close" fit if the mean decile discrepancy score is 1.2 or below. Any score of 1.3 or above is considered "not close". "Unique fit" is defined as a difference of 1.1 or more, between the mean score on the first and second best fitting clusters. A score of 1.0 or below is considered "not unique". The second district code digit is assigned to reflect this goodness of fit of the district to its district type as follows.

Code	Fits district type	Unique fit
.1	close	unique
.2	close	not unique
.3	not close	unique
.4	not close	not unique

Thus your district is finally assigned a two-digit number indicating its district type and its goodness of fit to that type.

To make clear this procedure a hypothetical district will be assigned values and taken through the classification procedure.

Assume the hypothetical entity, say Xanadu, is a unified district with the following values derived from the census:

1.	School enrollment ratio	19.7
2.	Education	11.9
3.	Geographical stability	47.1
4.	Personal income	6501
5.	Income variation	4
6.	Occupation level	3.61
7.	Occupation variation	3
8.	Median age	37.9
9.	Percent married	74.3
10.	Percent white	99.1
11.	School district size	712
12.	Tax wealth	51,178
13.	School expenditures	52,733

1. The first step is to convert these to deciles by the use of Table 1. The decile scores are respectively: 3, 5, 8, 5, 2, 4, 2, 8, 9, 7, 4, 7, 7.

2. These deciles are next compared with the profiles of the unified district types given in Table 2, making certain that mobility and occupation are omitted, and age is counted twice, as indicated by the type composition. This comparison is as follows:

	Enrl	Educ	Mob	Inc	VInc	Occ	VOcc	Age	Mar	Wht	Size	Wlth	Xpnd
XANADU	3	5	8	5	2	4	2	8	9	7	4	7	7
District Type													
1	1	6	x	5	6	x	3	7	1	1	8	7	7
2	5	7	x	9	5	x	2	5	7	7	5	4	5
3	4	4	x	5	3	x	4	3	3	2	7	2	4
4	4	2	x	1	6	x	5	8	5	6	0	8	8
5	7	1	x	2	2	x	9	3	5	5	3	3	0

The mean profile differences of Xanadu from each district cluster (adding the age difference twice) are:

From District Type:

1 2+1+0+4+1+1(+1)+8+6+4+0+0 = 28(÷ 12) = 2.3

2 2+2+4+3+0+3(+3)+2+0+1+3+2 = 25(÷ 12) = 2.1

3 1+1+0+1+2+5(+5)+6+5+3+5+3 = 37(÷ 12) = 3.1

4 1+3+4+4+3+0(+0)+4+1+4+1+1 = 26(÷ 12) = 2.2

5 4+4+3+0+7+5(+5)+4+2+1+4+7 = 46(÷ 12) = 3.8

Thus Xanadu fits best -- but not well in District Type 2 and not uniquely, since it fits almost as well in type 4. Hence it would be designated a 24 district.

Effectiveness Criteria

You must now decide which criteria of administrative effectiveness are most important to you. These differ somewhat for principal and superintendent selection.

Superintendent

It was not possible to factor analyze the criteria of administrative effectiveness for superintendents because there were too few of them. All criteria are derived from the average rating of school board members and/or staff members. They include:

1. Overall rating. General administrative effectiveness compared to other superintendents known to the rater.

2. Problem solving ability. The degree to which the superintendent facilitates the efficient solution of school district problems.

3. Communication ability. The degree to which the superintendent maintains an effective system of communications through the school district.

4. Educational leadership ability. The degree to which the superintendent provides a high level of educational leadership.

5. School maintenance ability. The degree to which the administrator takes care of such matters as schedules, building maintenance and availability of teachint materials.

6. Organization ability. The degree to which the superintendent organizes activities so as to obtain maximum benefit from district resources.

7. Use of human resources. The degree to which school personnel feel motivated, guided, and given an opportunity to do their best for the school.

8. Board relations. The degree to which the superintendent deals effectively with the school board.

Principal

Since the number of principals was large enough to do a factor analysis, the criteria used for the superintendent (except for board relations) were reduced to three factors. These plus the overall rating and a combination of two of the factors constituted the criterion measures for principal.

a) Overall rating. A global assessment of the principal's effectiveness as compared to other principals known to the raters. The score is the average of all the ratings given by the principal's teachers.

b) Personal traits. Those qualities that are primarily characteristic of the administrator's personal performance, including his problem solving ability, ability to maintain the school plant, and his educational leadership.

c) Organizational traits. Those traits relevant to his ability to integrate and coordinate the various elements of the school situation into an efficient operation, including organizational efficiency, ability to use human resources well, and skill in communication.

d) Interpersonal traits. The amount of satisfaction with the interpersonal situation that an administrator engenders in his teachers, staff and/or board members. The measure of this factor is the degree to which the administrator's raters feel that he finds them important, competent, and likeable.

e) Task ability rating. A combination of the personal and the organizational factors. It represents the totality of all task ability scales used to assess administrative performance.

Technical knowledge was not used as a criterion measure to be predicted from the predictor variables since it can be assessed more easily through an objective test.

Administration of Test Battery

The test battery includes the items presented in Table 3.

Table 3

The test battery

Predictor Variable	Test	Items	Approximate administration time
1, 2, 20, 21	LIPHE	81	20 min.
3, 4	FIRO-F	54	10
5, 6, 7, 8, 19	VAL-ED	99	25
	Certainty	9	1
	Imagination	9	1
	Politics	1	¼
9, 10	COPE	30	20
11	Age	1	¼
	Income	1	¼
	Stability	1	¼
12, 18	Birth Order	2	1
13	Father's Occ.	1	¼
	Father's Educ.	1	¼
14	Sex	1	¼
15	Marital Status	1	¼
16	Religious Pref.	1	¼
17	Intelligence	37	20
22	Yrs. in position	1	¼
23	Yrs. full time teaching	1	¼
24	Major field	1	¼
		333	101 min.

Testing time should vary between one and two hours.

Evaluation of Candidates

You now have, 1) classified your district type, 2) obtained decile scores on the test battery for each administrative candidate, and 3) selected the criteria of effectiveness of most importance for your district.

The remaining task is to weight the test scores for each candidate for the chosen criteria for your district type. A high overall score means a high probability of that candidate succeeding in your district. Table 4 presents these weights.

Table 4

Weights (regression coefficients) for

computing degree of administrative success

Principals

Predictor Variables	District Type 1					District Type 2					District Type 3				
	Rtg	Pers	Org	Lik	Tsk	Rtg	Pers	Org	Lik	Tsk	Rtg	Pers	Org	Lik	Ts
1	0	3	7	-11	1	1	-3	-3	-8	-6	-1	0	-5	0	-
2	0	-7	-12	0	-2	-2	-2	-3	-5	-5	10	6	11	11	
3	-5	1	-6	-1	-1	9	11	9	10	20	5	20	33	-11	
4	-3	-14	-12	-2	-3	4	-1	-1	4	-1	-1	14	12	6	
5	5	13	15	-6	3	-9	-22	-15	-5	-36	-9	-10	-2	-2	-
6	4	9	12	-2	2	-5	-11	-9	1	-20	-12	-8	-10	-29	-
7	6	35	29	22	6	-5	4	1	-3	4	8	-1	0	27	
8	-3	-20	-15	-33	-4	-12	-43	-40	-7	-83	1	-4	27	-18	
9	-6	-32	-28	-24	-6	5	5	1	3	7	-2	-15	-12	5	-
10	0	1	7	-3	1	-1	-6	-8	0	-14	1	13	13	10	
11	20	42	58	48	10	17	28	32	17	61	10	-28	-15	-14	-
12	30	56	70	-6	13	16	-24	-45	-44	-69	56	68	88	-35	1
13	11	-5	-18	29	-2	4	8	13	6	21	16	-7	-20	82	-
14	1	110	131	-54	24	-11	42	104	28	145	49	66	72	-87	1
15	-89	-224	-192	-45	-42	-40	-36	41	77	5	92	240	259	285	5
16	-5	3	2	28	0	-4	-4	4	-6	0	52	50	31	20	
17	0	2	2	-25	1	2	3	1	0	5	5	-9	-12	-7	-
18	-42	-66	-89	23	-16	-42	-4	27	50	23	-112	-24	-73	49	-1
19	-23	-25	-35	-25	-6	-2	25	23	38	49	5	62	81	-6	1
20	-20	10	13	27	2	-30	-42	-36	-13	-78	4	26	14	-105	
21	29	77	67	42	14	30	75	53	50	128	-25	-41	-62	4	-1
*22	-15	-25	-44	-31	-7	7	2	-5	-14	-3	-22	11	24	6	
23	-70	-202	-190	-189	-39	-29	-58	-49	-22	-107	16	2	-12	16	-
24	-11	-40	-26	-50	-7	22	7	27	5	34	-21	-21	-53	-20	-
K	1086	2706	2061	1378	477	812	2843	2499	-1057	5342	-789	-430	-1100	-1684	-15
	(÷)				(x)						(÷)				(x)

(x) Score must be multiplied by ten to compare with other criteria or other district types

(÷) Score must be divided by ten to compare with other criteria or other district types.

*This variable not used for the selection process.

(See page 20 for key to predictor variables.)

Table 4 (continued)

Superintendents

Predictor Variables	In General								District Type 2								
	Rtg	Res	Prb	Com	Ldr	Brd	Mnt	Org	Prb	Com	Ldr	Brd	Mnt	Org	Int	Resp	Lik
1	0	-4	-8	-3	-1	1	5	7	-2	-2	-10	-18	-1	-2	-8	-14	-10
2	1	3	1	0	-1	-2	-6	-5	2	3	20	22	3	3	9	14	6
3	-1	10	5	7	5	5	-3	1	4	5	13	28	4	3	18	12	-5
4	9	2	-4	-1	-4	-4	-2	-8	-2	-3	-23	-24	-2	-3	-16	-14	-6
5	6	3	2	2	-3	-11	-7	-8	-2	-2	9	-11	-1	-2	4	-1	8
6	-12	-3	2	-3	-3	4	7	4	0	-1	-9	3	-4	-3	-10	1	4
7	-11	-5	-4	2	1	4	7	5	-4	-4	2	-13	-9	-2	-25	-24	-14
8	-2	-11	-10	-11	-13	-4	-15	-9	-3	-4	-15	-7	-2	-3	-36	31	24
9	0	-7	4	-1	1	2	5	4	-3	-2	-8	-6	-2	-2	-2	-9	-3
10	-1	2	2	0	3	1	-2	-2	2	3	13	17	2	2	9	11	5
11	-6	12	9	-1	-1	11	15	10	2	4	19	36	4	4	12	16	1
12	-9	15	11	5	3	19	28	21	-11	-10	-39	-45	-5	-10	-10	-53	-15
13	7	-2	-2	3	3	-2	-4	-20	2	2	12	11	1	2	-7	13	-1
14	3	23	-22	15	18	-5	6	79	-88	-45	85	248	4	-7	-726	-164	-202
15	39	-9	33	43	18	-39	-48	-30	22	29	98	175	22	16	187	131	24
16	2	1	2	10	-2	-12	-21	-13	6	0	-6	-21	1	2	11	-8	-6
17	8	2	-5	-3	-3	9	6	7	1	1	8	-8	0	0	3	-16	-15
18	-22	-41	-28	10	8	-35	-57	-36	25	23	75	87	12	19	35	147	54
19	-20	2	0	-6	-9	20	24	22	1	6	-2	32	3	0	23	7	-8
20	-6	6	-2	2	-9	6	-6	-10	6	-8	-16	-54	-11	-	-58	5	6
21	-9	-19	6	-12	-8	-1	10	6	-9	-10	-136	-43	-10	-13	-70	-59	-2
*22	-26	-3	-10	8	14	20	22	13	4	5	49	14	4	6	31	-15	-12
23	2	-23	-5	-3	-23	-10	-15	-13	-9	-8	-29	-35	-5	-7	-28	4	12
24	8	-1	-17	-5	11	-6	-12	-12	-10	-10	-54	-43	-10	-6	-82	10	33
K	552	291	345	333	687	-31	110	27	236 (x)	139 (x)	311	50	16 (x)	179 (x)	671	-42	-18

(x) Score must be multiplied by ten to compare with other criteria or other district types.

*This variable not used for the selection process.

(See page 20 for key to predictor variables.)

Table 4 (continued)

Superintendents

Predictor	Board Rated								Staff Rated							
Variables	Rtg	Res	Prb	Com	Ldr	Brd	Mnt	Org	Rtg	Res	Prb	Com	Ldr	Brd	Mnt	Org
1	-5	-2	3	1	-4	-6	-2	0	-1	-3	-3	4	7	-6	2	10
2	-2	-5	-6	0	4	-2	-1	0	-1	2	0	-6	-3	5	-6	-5
3	8	16	3	8	13	9	2	4	-2	11	13	6	10	14	8	8
4	-5	-7	-2	-4	-9	-1	-3	-1	-10	4	1	-6	-5	-1	6	-1
5	-5	4	8	3	5	7	10	5	-6	-6	-2	-10	-15	-16	-6	-14
6	0	1	-1	-3	0	-2	0	-10	-2	1	1	-7	2	2	-6	-4
7	-2	-7	8	0	-5	-10	1	4	11	-4	0	13	-1	-7	3	0
8	-13	1	3	-5	-6	-7	-5	-7	-10	-23	-25	-31	-16	-21	-29	-24
9	1	5	3	3	0	5	2	3	2	3	4	1	2	2	5	7
10	0	0	-2	-1	1	2	-2	-2	1	0	-3	1	1	3	-1	-1
11	6	5	-5	5	15	14	2	1	4	31	21	1	12	44	24	28
12	20	19	19	18	7	23	14	15	8	14	19	38	3	1	7	-1
13	-4	-7	-3	-6	-5	-2	1	1	7	4	0	19	10	-6	13	8
14	2	60	-35	2	113	-12	38	-12	285	139	-95	392	655	276	138	449
15	35	24	27	22	28	65	1	45	-1	-15	21	62	-5	3	42	-25
16	0	10	10	-2	2	-7	10	0	-18	-8	6	-7	-37	1	-21	-20
17	-12	-3	7	3	-9	-4	4	1	-3	1	-10	3	0	-5	3	8
18	-51	-49	-40	-71	-33	-84	-55	-59	-27	-36	7	-41	24	-61	3	-10
19	5	6	8	-7	-22	-7	-15	-13	-4	24	22	27	32	35	21	22
20	1	-8	-8	-12	-8	-1	10	4	3	6	-6	-3	-13	-1	7	-12
21	19	14	5	-29	-14	10	-18	-25	-6	8	20	18	-3	9	4	-2
*22	-6	-21	-6	-14	-8	-19	-10	-1	4	-18	-1	-7	-7	-14	8	-11
23	6	-14	-12	-3	-23	-20	-5	-13	4	-31	-31	-10	-14	-8	-21	-20
24	-1	-6	-10	6	0	3	-1	7	11	-19	-22	-3	18	-12	-21	-1
K	895 (÷)	194	-206	339	520	99	302	328	719 (÷)	124	268	-264	-15	116	144	205

(÷) Score must be divided by ten to compare with other criteria or other district types.

*This variable not used for the selection process.

(See page 20 for key to predictor variables.)

Predictor Variables:

No. Name(content and positive end of scale)
1. I am dissatisfied with the way my father related to me.
2. I am dissatisfied with the way my mother related to me.
3. I want people to notice, respect, and like me.
4. I am interested in, respect, and like people.
5. I prefer conformity and conventionality.
6. People in the school situation should have close and personal relations with each other.
7. Education is of importance in developing the whole child.
8. I am conservative.
9. I handle anxiety by attributing my unacceptable feelings and motives to others.
10. I handle anxiety by denying the problem or its importance.
11. I am an established citizen.
12. I come from a large family.
13. I have a high status father.
14. I am male.
15. I am married.
16. I prefer a high status religion.
17. I am intelligent.
18. I was a later born child in my family.
19. The teacher should regulate classroom behavior.
20. When I was a child, I wanted my father to allow me more freedom.
21. My father wanted me to be a better person.
22. I have held my position for many years.
23. I have been a full time teacher for many years.
24. My teaching field was like the sciences and mathematics.

An example may clarify the use of these tables. Suppose the Xanadu unified district (used in above example) was selecting a principal and was especially interested in general task performance. Let us also suppose there are four candididates for the principalship who receive the following scores on the test battery. Table 5 presents these scores.

Table 5

Test scores for four hypothetical candidates for the principalship of a Xanadu district school

Predictor Variable	Range	Abe	Barry	Charlie	Donna
1	(0-27)	7	10	24	3
2	(0-54)	24	12	7	25
3	(0-27)	21	9	5	9
4	(0-27)	24	13	17	22
5	(0-45)	38	31	11	15
6	(0-45)	15	21	26	9
7	(0-27)	11	14	25	21
8	(0-27)	22	20	8	4
9	(0-18)	12	10	2	5
10	(0-27)	10	25	11	5
11	(1-26)	20	24	12	16
12	(1-25)	18	21	3	4
13	(1-15)	13	14	6	8
14	(1-2)	1	1	1	2
15	(1-5)	5	5	1	3
16	(1-9)	8	8	2	1
17	(0-37)	26	25	34	30
18	(1-9)	3	4	1	2
19	(0-9)	8	9	1	4
20	(0-9)	2	3	8	7
21	(0-9)	2	4	8	3
22	(1-9)	7	8	2	3
23	(1-9)	7	9	2	4
24	(1-9)	3	5	9	8

Each of the scores are multiplied by the appropriate weight as given in Table 4, the weighted scores are summed for each candidate and a constant is added to the sums for standardization. These weighted scores are given in Table 6 to illustrate the computation and to afford a closer examination of the contribution of each variable to the final result.

Table 6

Computation of scores for four hypothetical candidates for a district type two principalship based on the criterion of total task effectiveness

Predictor Variable	Weight (from Table 4)	Weighted Scores Abe	Barry	Charlie	Donna
1	-6	-42	-60	-144	-18
2	-5	-120	-60	-35	-125
3	20	420	180	100	180
4	-1	-24	-13	-17	-22
5	-36	-1368	-1116	-396	-540
6	-20	-300	-420	-520	-180
7	4	44	56	100	84
8	-83	-1826	-1660	-664	-332
9	7	84	70	14	35
10	-14	-140	-350	-154	-70
11	61	1220	1464	732	976
12	-69	-1242	-1449	-207	-276
13	21	273	294	126	168
14	145	145	145	145	290
15	5	25	25	5	15
16	0	0	0	0	0
17	5	130	125	170	150
18	23	69	92	23	46
19	49	392	441	49	196
20	-78	-156	-234	-624	-546
21	128	256	512	1024	384
22	-3	-21	-24	-6	-9
23	-107	-749	-963	-214	-428
24	34	102	170	306	272
Total of Weighted Scores		-2707	-2751	-181	259
Constant		5342	5342	5342	5342
Final Total		2635	2591	5161	5561

Performing the same computation for district types one and three yields the final scores presented in Table 7.

Table 7

Scores of four hypothetical candidates for a Xanadu district principalship on the task ability criterion for three district types

District Type 1		District Type 2		District Type 3	
Charlie	761	Donna	5551	Abe	519
Donna	440	Charlie	5161	Barry	442
Barry	439	Abe	2635	Donna	48
Abe	293	Barry	2591	Charlie	-231

The data from this example will be used to illustrate the uses of this method for selection, placement and diagnosis.

Selection

The candidate with the highest score is selected for the administrative position. Using the total task ability criterion Charlie would clearly be the best candidate for district type one. Donna and Barry would be in the middle with Abe the least likely success in a district type one principalship.

Donna is the leading candidate for a district type two principalship with Charlie not far behind. Abe and Barry are both a long distance from those two. However, in district type three, Abe is the outstanding candidate. Barry is in a solid position while Donna is far down and Charlie is an outstandingly bad fit.

The striking differences in preference for candidates in the three districts illustrates the vital importance of considering the type of district in selecting an administrator. The fact that three different candidates would be best in three different districts means that failure to consider district type can lead to gross misplacement.

For selection, variable 22, years in position, is omitted, since the candidates cannot all be presently in that position.

Placement

An administrative candidate, if measured alone is best placed in the district in which his score is greatest. If he is being compared with other candidates he may be placed in the district in which he has the highest comparative ranking. In other words, the candidates with whom he is competing may all be strong candidates for say, district type one, and not for the others. In that case the administrator being placed might score higher on district type one than he does on the other districts, but relative to the other candidates he is lower on district type one than he is on one of the other districts.

There are two small mathematical points to note in placement. In order to make scores between districts comparable the constants given in Table 4 must always be added to the sum of weighted scores. This constant makes the totals comparable from one district to another. In addition, in assigning regression weights, those for some criteria were multiplied by ten for convenience. When compared with other district scores they must be divided by ten to return them to comparability. The scores for which this must be done are indicated in Table 4.

One score for which this division must be done is the total task ability criterion for district type two. In the example above that would change the scores of the candidates in district type two to: Donna 555, Charlie 516, Abe 264, and Barry 259.

Given the scores in the example it would be reasonable to place Charlie in district type one (score of 761). He also might do well in district type two (516), but he should be kept far away from district type three (-5[illegible]1). Donna should be placed in district type two (555) preferably. She should do fairly well in district type one (439), but very moderately in district type three ([illegible]). Abe has an almost opposite pattern. He should certainly go to a district type three principalship (519). He would apparently do a very mediocre job in district types two or one (264, 293). Barry is harder to place since he doesn't have a very high score in any district. His best bet is district type three (442), followed by district type one (440) and district type two (259).

Diagnosis

The diagnosis of an administrative problem is carried out by examining the detailed scores of a candidate, such as those given in Table 5. The variables on which the administrator makes his greatest negative scores can be examined as possible points of difficulty, and those on which he makes his highest positive scores could be his sources of strength.

To follow the example using Table 6, Abe's major problems in Xanadu (a district type two) are:

1) his conservatism (predictor variable 8).
2) his conformity (variable 5).
3) the fact that he comes from a large family (variable 12)
4) his lengthy teaching experience (variable 23).

These factors are in no sense final answers to Abe's problems in Xanadu, but they may, for example, be used as starting points in a discussion between Abe and his superintendent in an attempt to explore administrative problems.

An analysis of Donna's performance in the administrative role would lead to the following observations.

1) The fact that she is an established citizen (variable 11) is a help to her administrative success.
2) The fact that her father wanted her to be a better person (variable 21) may have given her the kind of drive required for this job.
3) The fact that her teaching field was the sciences (variable 23) helps her.
4) Her main stumbling block seems to be related to the fact that she wanted her father to allow her more freedom when she was a child (variable 20).

These clues to strengths or difficulty require different degrees of inference. Being conservative or conformist is an immediate trait that can be discussed on its own merits. However, the relation between administrative performance and wanting to be given more freedom when a child is more a basis for speculation. It may be that Donna still wants more room to maneuver on her job. But these are matters that can be explored if this technique is used as the basis for a discussion with people relevant to the administrative situation.

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APPENDIX A

RELATION OF UNIFICATION TO BASES OF STRATIFICATION

A problem of current interest in California is that of the merits of unification of school districts. A by-product of the judging procedure described in chapter four provides some information on the relation between unification, demographic classification and the quality of school program required by the school district — as seen by our judges. This result cannot be considered unbiased since the judges' own feelings about the relation between unification and DQR may have influenced their ratings. The results are offered with this limitation in mind. The total relation is presented in Table 1.

Table 1

Relation between classifications for

unified and union high school districts

For Unified

		Demographic Class								
		1	2	3	4	5	6	7	8	Row Total
	1	1	3	3	0	1	0	0	0	8
	2	1	1	1	0	3	1	4	1	12
	3	1	1	2	0	3	0	1	0	8
DQR	4	1	5	3	0	8	2	18	8	45
	5	0	0	0	0	4	2	0	6	12
	6	0	0	0	0	1	1	3	4	9
	7	0	0	1	0	0	1	5	17	24
Column Total		4	10	10	0	20	7	31	36	118

For Union

		Demographic Class								
		1	2	3	4	5	6	7	8	Row Total
	1	0	0	3	1	0	0	1	0	5
	2	0	0	1	3	2	2	3	1	12
	3	1	1	1	4	0	0	1	0	8
DQR	4	0	0	15	19	4	10	18	6	72
	5	0	1	1	0	1	1	4	4	12
	6	0	0	4	6	3	9	25	9	56
	7	0	0	2	2	1	1	21	24	51
Column Total		1	2	27	35	11	23	73	44	216

Dichotomizing reveals the trend clearly and further breakdowns confirm the original picture (Table 2).

Table 2

Table 1 dichotomized

(a)		Unified	Union
DQR	High (1-4)	63 (.59)	97 (.45)
	Low (5-7)	45 (.41)	119 (.55)

(b)		Unified	Union
Dem	Large (1-6)	51 (.43)	99 (.46)
	Small (7-8)	67 (.57)	117 (.54)

The unified districts are rated high on DQR significantly more times than the union districts (.59 to .45), although the difference is not so great as that between the larger and smaller districts. Table 2(b) indicates that unification is a separate factor from size, since the distributions of unified and union districts on the demographic variable are about the same (.43 to .46).

However, a closer examination of the relation of unification to Dem and DQR classifications is given by Table 3 (a), (b), and (c) (a trichotomy was more revealing than a dichotomy in this case).

Table 3

Trichotomized breakdown of Dem

and DQR classifications by unified-union

(a) For Unified

		Demographic		
		Large (1-6)	Small (7-8)	
DQR	High (1-3)	22 (.43)	6 (.08)	
	Medium (4)	19 (.38)	26 (.40)	
	Low (5-7)	10 (.19)	35 (.52)	
		51	67	118

(b) For Union

		Demographic		
		Large (1-6)	Small (7-8)	
DQR	High (1-3)	19 (.19)	6 (.05)	
	Medium (4)	48 (.49)	24 (.21)	
	Low (5-7)	32 (.32)	87 (.72)	
		99	117	216

Table 3 continued:

(c) For Large Demographic Districts (1-6)

		Unified	Union	Total
	High (1-3)	22 (.43)	19 (.19)	(.27)
DQR	Medium (4)	19 (.38)	48 (.49)	(.45)
	Low (5)	10 (.19)	32 (.32)	(.28)

(d) For Small Demographic Districts (7-8)

		Unified	Union	Total
	High (1-3)	6 (.08)	6 (.05)	(.07)
DQR	Medium (4)	26 (.40)	24 (.21)	(.26)
	Low (5-7)	35 (.52)	87 (.72)	(.66)

These tables reveal that while unified districts in general are rated higher in district quality requirement, the actual situation is more specific. In general, if a large district is unified, it is considerably more likely to have a high DQR (.43 to .19 for union). However, if a small district is unified, it has a much greater chance of avoiding a low DQR (.52 to .72 for union), but is no more likely to have a high DQR than a corresponding union (.05 to .08). In other words, while large districts in general tend to have a medium DQR, if they are unified they tend toward a high DQR. Smaller districts in general tend to have a low DQR, and if they are unified they tend more toward a medium DQR.

APPENDIX B

SAMPLING OF SCHOOL UNITS

There were nine studies covering superintendents and principals at the high school, junior high and elementary levels, for both unified and union districts. Since the subjects of each of these studies were to be analyzed as a group representative of the state of California, each had to be chosen randomly, and each had to have a known probability of being chosen.

For the unified districts this condition was met by making a random selection from within each district of high, junior high, and elementary schools.[1] The union high school districts presented a somewhat more complicated system. Assuming the sampled districts are representative of union high school districts in the state, the union high school superintendent study (study 2) was properly sampled for when the sample of districts was selected. A random selection of high schools and junior high schools within each district insured the representativeness of the union high school and junior high school principal studies (7 and 8). In order to allow every elementary school superintendent (study 3) to have a known probability of being selected, a random selection was made among the elementary school districts within each union high school district. The elementary principal study (study 9) was sampled for by selecting at random from the elementary schools within each elementary district chosen.

In all cases a sample roughly proportionate to size of category was selected, amended by oversampling the units that would be very numerous in a proportionate sample. The weighting principle was used throughout.

Selection of high schools

The number of high schools within the districts chosen varies from one to 51. To make the sample size practical and to obtain a stable and fairly representative sample of the high schools as distributed in the districts selected, a roughly proportional sample (about 1:3) was used and high schools were selected randomly from each district. All high schools were chosen from those districts that had only one high school, and a much smaller proportion from districts with a very large number of high schools. Weights are given in Table 4 along with the number of high schools in each district and number selected from each district. (N refere to the number in the population and n to the number sampled. These symbols will be used throughout.)

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[1] The random numbers were selected from the table of random numbers printed in Table 33 of Fisher, R. A., and Yates, F., Statistical Tables for Biological, Agricultural, and Medical Research, as reprinted in Table 18 of Lindquist, E. L., Statistical Analysis in Educational Research, 1940.

Table 4

Random sample of high schools

Sample district	Number of high schools (N)	Number sampled (n)	Wt.
Acalanes	4	2	2.00
Alhambra	3	1	3.00
Beaumont	1	1	1.00
Bellflower	2	1	2.00
Brawley	1	1	1.00
Calistoga	1	1	1.00
Carpinteria	1	1	1.00
Chico	1	1	1.00
Chino	1	1	1.00
Clovis	1	1	1.00
Colton	1	1	1.00
Corona	1	1	1.00
Coronado	1	1	1.00
Covina Valley	2	2	2.00
Culver City	1	1	1.00
Delano	1	1	1.00
Eureka	1	1	1.00
Excelsior	4	2	2.00
Folsom	1	1	1.00
Fowler	1	1	1.00
Fremont	3	1	3.00
Garden Grove	4	2	2.00
Glendale	2	1	2.00
Gonzales	1	1	1.00
Grant	3	1	3.00
Gustine	1	1	1.00
Half Moon Bay	1	1	1.00
Hilmar	1	1	1.00
Inglewood	2	1	2.00
King City	1	1	1.00
Lassen	2	1	2.00
Lincoln	1	1	1.00
Live Oak	1	1	1.00
Long Beach	5	2	2.50
Los Angeles	51	6	8.50
Los Gatos	2	1	2.00
Madera	1	1	1.00
District	**N**	**n**	**Wt.**
Marysville	1	1	1.00
Middletown	1	1	1.00
Mono	2	1	2.00
Monterey	1	1	1.00
Nevada	1	1	1.00
Oakland	6	2	3.00
Oro Madre	1	1	1.00
Orosi	1	1	1.00
Palm Springs	1	1	1.00
Palo Verde	1	1	1.00
Pasadena	2	1	2.00
Placer	3	1	3.00
Porterville	1	1	1.00
Princeton	1	1	1.00
Ramona	1	1	1.00
Salinas	2	1	2.00
San Bernardino	3	1	3.00
San Diego	9	3	3.00
San Francisco	8	3	2.67
San Jose	4	2	2.00
San Leandro	2	1	2.00
Sta. Barbara	2	1	2.00
Sta. Monica	1	1	1.00
Shandon	1	1	1.00
Sierra	1	1	1.00
South Bay	3	1	3.00
South San Francisco	2	1	2.00
Stockton	3	1	3.00
Temple City	1	1	1.00
Templeton	1	1	1.00
Torrance	3	1	3.00
Turlock	1	1	1.00
Tustin	1	1	1.00
Upper Lake	1	1	1.00
Vallejo	1	1	1.00
Washington	2	1	2.00

Of the 188 high schools in the districts sampled, 88 (or 47 percent) were chosen. This is 13 percent of the 682 high schools in California. Within the union districts 63 percent (40 out of 64) were chosen, while 58 percent (42 out of 73) of all the unified high schools, excluding Los Angeles, were selected.

Los Angeles, because of its extreme size, was treated separately from the remaining districts for this sampling as well as the junior high school sample. For certain administrative purposes, the Los Angeles school district had been divided by the local administration into six relatively homogeneous sub-areas (central, east, west, south, valley east, valley west). These units provided a way of treating the large Los Angeles district as a series of smaller districts. One high school was chosen randomly from each of these sub-units to assure geographical distribution within the large metropolitan area and still retain randomness. The schools were arranged alphabetically within administrative sub-units for the purposes of sampling. The list of high schools and a map displaying the sub-units was provided by the Los Angeles school district. All information on other districts was obtained from the California School Directory, 1961-1962.

Selection of Junior high schools

The number of junior high schools in California is relatively small (326) and only 30 districts in the sample have any junior highs at all. It was decided to take one junior high for each high school within a district. Thus, for each district containing at least one junior high school, the number of junior highs in the sample equalled the number of high schools in the sample. Again, weights were applied as before. Table 5 presents the sampling of junior high schools:

Table 5.

Random sample of junior high schools

District	Number of Junior Highs (N)	Number Sampled(n)	Wt.	District	N	n	Wt.
Bellflower	2	1	2.00	Nevada	1	1	1.00
Carpinteria	1	1	1.00	Oakland	16	2	8.00
Chico	2	1	2.00	Palm Springs	1	1	1.00
Chino	1	1	1.00	Palo Verde	1	1	1.00
Corona	2	1	2.00	Pasadena	5	1	5.00
Coronado	1	1	1.00	Salinas	2	1	2.00
Culver City	1	1	1.00	San Bernardino	10	1	10.00
Eureka	2	1	2.00	San Diego	14	3	4.67
Folsom	1	1	1.00	San Francisco	15	3	5.00
Glendale	5	1	5.00	San Jose	6	2	3.00
Grant	7	1	7.00	San Leandro	2	1	2.00
Inglewood	2	1	2.00	Santa Barbara	3	1	3.00
Long Beach	14	2	7.00	Santa Monica	2	1	2.00
Los Angeles	65	6	10.83	Stockton	5	1	5.00
Monterey	3	1	3.00	Vallejo	3	1	3.00

The sample includes 42, or 22 percent of the 195 junior high schools in the sampled districts. This is about 13 percent of the 326 junior high schools in California. The sample took 29 percent (9 out of 31) of the junior highs in union districts, and 27 percent (27 out of 99) of those in unified districts, excluding Los Angeles.

Selection of elementary schools

To do the study of elementary school superintendents, it was necessary first to sample randomly the elementary districts within ("component districts") the union high school districts. In this way every elementary school district superintendent had a known chance of being selected. Within each district chosen the elementary schools were selected randomly. Again the general principle for both selections was to select an approximately proportionate sample except to oversample those units with low frequency and undersample units with very high frequency.

Elementary schools in unified districts had to be sampled separately. The total of the unified elementary schools was kept in proportion to the state ratio of elementary schools in unified districts to elementary schools in elementary districts.

The elementary school district sample is given in Table 6.

Table 6
Sample of elementary school districts

District	Number of Elementary Districts	Number Sampled	Wt.	District	N	n	Wt.
Acalanes	5	2	2.50	Los Gatos	4	2	2.00
Alhambra	3	1	3.00	Madera	9	2	4.50
Brawley	4	2	2.00	Marysville	14	3	4.67
Chico	3	2	1.50	Mono	5	2	2.50
Colton	4	2	2.00	Monterey	5	2	2.50
Delano	6	2	3.00	Nevada	15	3	5.00
Eureka	8	2	4.00	Orosi	3	1	3.00
Excelsior	6	2	3.00	Placer	16	3	5.33
Fowler	2	1	2.00	Porterville	13	3	4.33
Fremont	2	1	2.00	Salinas	8	2	4.00
Garden Grove	2	1	2.00	San Bernardino	4	2	2.00
Gonzales	2	1	2.00	Santa Barbara	6	2	3.00
Grant	6	2	3.00	Shandon	3	1	3.00
Gustine	2	1	2.00	Sierra	6	2	3.00
Half Moon Bay	3	1	3.00	South Bay	3	1	3.00
King City	8	2	4.00	Turlock	6	2	3.00
Lassen	12	3	4.00	Tustin	4	2	2.00
Lincoln	3	1	3.00	Upper Lake	2	1	2.00
Live Oak	5	2	2.50				

The next table presents the elementary schools chosen and their weights.

Table 7

Sample of elementary schools from elementary school districts

High School District	Elementary School District	Number of Elementary Schools	Number Sampled	Weight
Acalanes	Lafayette	7	2	3.50
	Moraga	2	1	2.00
Alhambra	Garvey	8	2	4.00
Brawley	Magnolia	1	1	1.00
	Mulberry	1	1	1.00
Chico	Cohasset	1	1	1.00
	Forest	1	1	1.00
Colton	Colton	6	2	3.00
	Terrace	1	1	1.00
Delano	Allensworth	1	1	1.00
	Earlimart	1	1	1.00
Eureka	Freshwater	1	1	1.00
	Jones Prairie	1	1	1.00
Excelsior	Bloomfield	5	2	2.50
	Carmenita	2	1	2.00
Fowler	Malaga	2	1	2.00
Fremont	Cupertino	29	3	9.66
Garden Grove	Garden Grove	28	3	9.33
Gonzales	Gonzales	1	1	1.00
Grant	Del Paso Heights	4	2	2.00
	Robla	4	2	2.00
Gustine	Romero	1	1	1.00
Half Moon Bay	Tunis	1	1	1.00
King City	King City	2	1	2.00
	San Lucas	1	1	1.00
Lassen	Janesville	1	1	1.00
	Richmond	1	1	1.00
	Susanville	4	2	2.00
Lincoln	Lincoln	2	1	2.00
Live Oak	Encinal	1	1	1.00
	Machado	1	1	1.00
Los Gatos	Lakeside	1	1	1.00
	Saratoga	4	2	2.00
Madera	Alpha	1	1	1.00
	Howard	1	1	1.00
Marysville	Brophy	1	1	1.00
	Linda	3	1	3.00
	Rose Bar	1	1	1.00
Mono	Benton	1	1	1.00
	Bridgeport	1	1	1.00

(continued)

Table 7 continued:

High School District	Elem. School District	Number of Elem. Schools	Number Sampled	Weight
Monterey	Captain Cooper	1	1	1.00
	Palo Colorado	1	1	1.00
Nevada	Grass Valley	3	1	3.00
	Nevada City	1	1	1.00
	Ready Springs	1	1	1.00
Orosi	Orosi	1	1	1.00
Placer	Foresthill	1	1	1.00
	Gold Run	1	1	1.00
	Ophir	1	1	1.00
Porterville	Burton	1	1	1.00
	Hot Springs	2	1	2.00
	Porterville	9	2	4.50
Salinas	Alisal	4	2	2.00
	Santa Rita	1	1	1.00
San Bernardino	Rialto	9	2	4.50
	San Bernardino	38	4	9.50
Santa Barbara	Hope	1	1	1.00
	Montecito	1	1	1.00
Shandon	Choice Valley	1	1	1.00
Sierra	Big Creek	1	1	1.00
	Pine Ridge	1	1	1.00
South Bay	Manhattan Beach	9	2	4.50
Turlock	Johnson	1	1	1.00
	Turlock	7	2	3.33
Tustin	San Joaquin	2	1	2.00
	Tustin	7	2	3.33
Upper Lake	Lucerne	1	1	1.00

Table 8 presents the districts chosen as representative of California

Table 8

Districts chosen as a representative sample
of school districts in California

High School Districts	Component Elementary School Districts
Acalanes (Contra Costa County)	Lafayette, Moraga
Alhambra (Los Angeles Co.)	Garvey
Beaumont (Riverside Co.)	
Bellflower (Los Angeles Co.)	
Brawley (Imperial Co.)	Magnolia, Mulberry
Calistoga (Napa Co.)	
Carpinteria (Santa Barbara Co.)	
Chico (Butte Co.)	Cohasset, Forest
Chino (San Bernardino Co.)	
Clovis (Fresno Co.)	
Colton (San Bernardino Co.)	Colten, Terrace
Corona (Riverside Co.)	
Coronado (San Diego Co.)	
Covina Valley (Los Angeles Co.)	
Culver City (Los Angeles Co.)	
Delano (Kern Co.)	Allensowrth, Earlimart (Tulare Co.)
Eureka (Humboldt Co.)	Freshwater, Jones Prairie
Excelsior (Los Angeles Co.)	Bloomfield, Carmenita
Folsom (Sacramento Co.)	
Fowler (Fresno Co.)	Malaga
Fremont (Santa Clara Co.)	Cupertino
Garden Grove (Orange Co.)	Garden Grove
Glendale (Los Angeles Co.)	
Gonzales (Monterey Co.)	Gonzales
Grant (Sacramento Co.)	Del Paso Heights, Robla
Gustine (Merced Co.)	Romero
Half Moon Bay (San Mateo Co.)	Tunis
Hilmar (Merced Co.)	
Inglewood (Los Angeles Co.)	
King City (Monterey Co.)	King City, San Lucas
Lassen (Lassen Co.)	Janesville, Richmond, Susanville
Lincoln (Placer Co.)	Lincoln
Live Oak (Santa Clara Co.)	Encinal, Machado
Long Beach (Los Angeles Co.)	
Los Angeles (Los Angeles Co.)	
Los Gatos (Santa Clara Co.)	Lakeside, Saratoga
Madera (Madera Co.)	Alpha, Howard
Marysville (Yuba Co.)	Brophy, Linda, Rose Bar
Middletown (Lake Co.)	
Mono (Mono Co.)	Benton, Bridgeport
Monterey (Monterey Co.)	Captain Cooper, Palo Colorado
Nevada (Nevada Co.)	Grass Valley, Nevada City, Ready Springs

Table 8. continued

High School Districts	Component Elementary School Districts
Oakland (Alameda Co.)	
Oro Madre (Amador Co.)	
Orosi (Tulare Co.)	Orosi
Palm Springs (Riverside Co.)	
Palo Verde (Riverside Co.)	
Pasadena (Los Angeles Co.)	
Placer (Placer Co.)	Forest Hill, Gold Run, Ophir
Porterville (Tulare Co.)	Burton, Hot Springs, Porterville
Princeton (Colusa Co.)	
Ramona (San Diego Co.)	
Salinas (Monterey Co.)	Alisal, Santa Rita
San Bernardino (San Bernardino Co.)	Rialto, San Bernardino
San Diego (San Diego Co.)	
San Francisco (San Francisco Co.)	
San Jose (Santa Clara Co.)	
San Leandro (Alameda Co.)	
Santa Barbara (Santa Barbara Co.)	Hope, Montecito
Santa Monica (Los Angeles Co.)	
Shandon (San Luis Obispo Co.)	Choice Valley
Sierra (Fresno Co.)	Big Creek, Pine Ridge
South Bay (Los Angeles Co.)	Manhattan Beach
South San Francisco (San Mateo Co.)	
Stockton (San Joaquin Co.)	
Temple City (Los Angeles Co.)	
Templeton (San Luis Obispo Co.)	
Torrance (Los Angeles Co.)	
Turlock (Stanislaus Co.)	Johnson (Merced Co.), Turlock
Tustin (Orange Co.)	San Joaquin, Tustin
Upper Lake (Lake Co.)	Lucerne
Vallejo (Solano Co.)	
Washington (Yole Co.)	

APPENDIX C

SCALING PROCEDURE

All scales with the exception of COPE were developed in the same way. Of the several techniques for psychological scale construction available the one that appeared most appropriate was the Guttman technique for cumulative scale analysis. For delimited content areas the Guttman method is more efficient and relevant than other methods such as factor analysis which are more useful for isolating variables.

The Guttman method has been described at length elsewhere (Guttman, 1950) but will be summarized here. Scales comprised of items regularly decreasing in popularity are constructed in such a way that any individual will accept items sequentially to a given point and then reject the remainder. If a series of items approximates this cumulative model to the degree that 90 percent of all responses to all items can be predicted correctly from only a knowledge of how many items each person accepted, then the items are said to be reproducible and to form a unidimensional scale. Unidimensionality means that all items are measuring the same dimension.

For all cumulative scales a length of nine items (ten points) was chosen. This number was the virtues of, 1) providing sufficient length for acceptable reliability (stability) of the scale, 2) providing a sufficient number of categories for dividing respondents into as many classes (ten) as are usually needed in psychological research, 3) keeping testing time short, 4) keeping scoring uniform among scales and in single digits for computational ease.

The scaling procedure is as follows:
1) A facet design (Guttman, 1959) is constructed for the area to be scaled, and items generated to fit into these facets. A facet design is a pattern of all possible combinations of the basic dimensions or facets of a content universe. Twelve items are selected as clearest, and best representative of the range covered by each facet.
2) These twelve items are administered to a large sample (in this study usually 1000). They are then submitted to the GUTS computer program (Schutz and Krasnow, 1964) developed for this project.

The aims of the GUTS program are: 1) from a set of M-items (in the present case, M = 12), derive the best K-item Guttman scales (K = 9 for this case), 2) assign scale scores to all subjects based on the best of the scales generated, and 3) compute the intensity function (zero point) of each scale.

The program takes a set of M-items with R response categories (in the present situation R = 6 in all cases, the six categories are listed below for each scale) and dichotomizes each item at every possible cutting point (R -1 ways per item). The program then finds the permutation of length 9-items with the highest reproducibility. The three 9-item scales (permutations) with the highest reproducibility are printed out by the computer printer. From these three, the most satisfactory permutation is selected based on the usual criteria for Guttman scaling, including reproducibility, percentage error per item, distribution of scale types, the intensity function, and the consistency of the content of the items.

The reproducibility is computed for every permutation on a test group made up of a randomly selected subset of any size up to S, of the total population, S. It is then computed for the check group, usually the remainder of the sample. This is to insure that the reproducibility was not due to capitalizing on chance.

Several types of data are provided by the program. The data reported for each scale include the following:

1) Identification of which nine of the twelve items was selected
2) The items listed in order by percentage of all subjects accepting the items
3) The percentage of respondents accepting each item
4) The cutoff point for dichotomizing the response set for each item
5) Mean response score on each item for all respondents
6) Standard deviation for each item
7) Point of least intensity (zero point)
8) Reproducibility of scale
9) Percentage of subjects receiving each scale score
10) Mean scale score
11) Standard deviation of scale

APPENDIX D

NORMS FOR INTELLIGENCE, DEFENSES, BIRTH ORDER, CERTAINTY AND IMAGINATION (N = 5847)

Mean Scores (in deciles)

			Defenses					Birth Order		
	N	Int.	Den	Isol	Proj	Reg	TAS	Ord.Pos.	Cert.	Imag
Occupation										
BD	231	3.9	4.6	4.9	4.2	3.5	4.8	2.6	6.1	3.7
SU	57	5.7	4.3	4.6	4.9	4.5	4.4	2.5	5.9	4.6
ST	232	5.5	3.8	4.7	4.9	4.4	4.6	2.5	6.0	4.8
S/P	38	4.7	4.2	4.3	4.4	4.8	4.7	3.1	6.0	4.4
PR	118	5.0	4.1	4.5	4.6	4.9	4.3	2.6	6.0	4.3
ADM	445	5.2	4.1	4.5	4.7	4.7	4.5	2.6	6.0	4.5
TE	3750	4.3	4.4	4.5	4.9	4.5	4.2	2.4	6.3	4.6
PA	1421	2.7	4.5	5.2	4.4	4.3	4.9	2.2	6.2	4.1
Sex										
Male	2573	4.1	4.9	4.8	4.8	4.1	4.0	2.5	6.2	4.6
Female	3274	3.6	4.1	4.7	4.7	4.5	5.0	2.3	6.2	4.5
Age										
Under 35	2105	3.6	4.3	4.6	4.9	4.3	4.2	2.2	5.9	5.0
36-45	1988	3.9	4.5	5.0	4.7	4.5	4.4	2.4	6.1	[illegible]
Over 46	1754	4.5	4.1	4.7	4.7	4.4	4.7	2.5	6.6	4.2
Education										
H.S. diploma		1.8	4.9	4.9	4.1	4.5	4.9	2.6	6.5	3.5
College Degree		3.2	4.2	4.8	4.5	4.1	4.8	2.3	6.1	4.9
Post-grad		4.6	4.5	4.6	4.9	4.4	4.3	2.4	5.8	4.6
Politics										
Liberal		3.7	4.4	4.9	4.7	4.3	4.4	2.4	6.0	4.7
Conservative		4.1	4.4	4.7	5.5	4.5	4.5	2.4	6.2	4.3

The most notable results are the following: 1) The higher IQ scores of the administrators. Most results are expected -- intelligence goes with higher education. But the administrators (5.2) are very much higher than teachers (4.3), board members (3.9) and parents (2.7). Some of these differences, of course, may be accountable to differences in education.

2) The relative lack of correlation of defense preferences with any of the other variables. Only sex differences seemed significant, men are greater deniers than women, and women more often use turning-against-self. These defense preferences would fit to cultural stereotype. Also political conservatives use projection more often than liberals.